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COMMENTS ON LUDWIG WITTGENSTEIN'S *REMARKS ON THE FOUNDATIONS OF MATHEMATICS*[1]

By Paul Bernays

I

The book with which the following observations are concerned is the second part of the posthumous publications of selected fragments from Wittgenstein in which he sets forth his later philosophy.[2] The necessity of making a selection and the fragmentary character which is noticeable in places are not unduly disconcerting since Wittgenstein in his publications in any case refrains from a systematic treatment and expresses his thoughts paragraph-wise — springing frequently from one theme to another. On the other hand we must admit in fairness to the author that he would doubtless have made extensive changes in the arrangement and selection of the material had he been able to complete the work himself. Besides, the editors of the book have greatly facilitated a survey of the contents by providing a very detailed table of contents and an index. The preface gives information on the origin of the different parts I-V.

Compared with the standpoint of the *Tractatus*, which indeed considerably influenced the originally very extreme doctrine of the Vienna Circle, Wittgenstein's later philosophy represents a rectification and clarification in essential respects. In particular it is the very schematic conception of the structure of the language of science — especially the view on the composition of statements out of atomic propositions — which is here dropped. What remains is the negative attitude towards speculative thinking and the permanent tendency to disillusionize.

Thus Wittgenstein says himself, evidently with his own philosophy in mind (p. 63, No. 18): 'Finitism and behaviourism are quite similar trends. Both say: all we have here is merely ... Both deny the existence of something, both with a view to escaping from a confusion. What I am doing is, not to show that calculations are wrong, but to subject the *interest* of calculations to a test.' And further on he explains (p. 174, No. 16): 'My task is not to attack Russell's logic from *within*, but from without. That is to say, not to

[1] *Remarks on the Foundations of Mathematics*, by Ludwig Wittgenstein. Edited by G. H. von Wright, R. Rhees, G. E. M. Anscombe. Translated by G. E. M. Anscombe. Basil Blackwell, Oxford, 1956. 37s. 6d.

[2] The book was originally published in German, with the English translation attached. All pages and numbers quoted refer to the German text.

attack it mathematically — otherwise I should be doing mathematics — but to attack its position, its office. My task is not to talk about Gödel's proof, for example, but to by-pass it.'

As we see, jocularity of expression is not lacking with Wittgenstein; and in the numerous parts written in dialogue form he often enjoys acting the rogue.

On the other hand he does not lack esprit de finesse, and his formulations contain, in addition to what is explicitly stated, many implicit suggestions.

Two problematic tendencies, however, appear throughout. The one is to dispute away the proper role of thinking — reflective intending — in a behaviouristic manner. David Pole, it is true, in his interesting account and exposition of Wittgenstein's later philosophy,[3] denies that Wittgenstein is a supporter of behaviourism. This contention is justified inasmuch as Wittgenstein certainly does not deny the existence of the mental experiences of feeling, perceiving and imagining; but with regard to thinking his attitude is distinctly behaviouristic. Here he tends everywhere towards a short circuit. Images and perceptions are supposed in every case to be followed immediately by behaviour. 'We do it like this', that is usually the last word of understanding — or else he relies upon a need as an anthropological fact. Thought, as such, is left out. It is characteristic in this connection that a 'proof' is conceived as a 'picture' or 'paradigm'; and although Wittgenstein is critical of the method of formalizing proofs, he continually takes the formal method of proof in the Russellian system as an example. Instances of proper mathematical proofs, which are not mere calculations, which neither result merely from showing a figure nor proceed formalistically, do not occur at all in this book on the foundations of mathematics, a major part of which treats of the question as to what proofs really are — although the author has evidently concerned himself with many mathematical proofs.

One passage may be mentioned as characterizing Wittgenstein's behaviouristic attitude and as an illustration of what is meant here by a short circuit. Having rejected as unsatisfactory various attempts to characterize inference, he continues (p. 8, No. 17): 'Thus it is necessary to see how we perform inferences in the practice of language; what kind of operation inferring is in the language-game. For example, a regulation says: "All who are taller than six foot are to join the . . . section." A clerk reads out the names of the men, and their heights. Another allots them to such and such sections. "X

[3] David Pole, *The Later Philosophy of Wittgenstein*, University of London, The Athlone Press, 1958.

six foot four." "So X to the . . . section." That is inference.' Here it can be seen that Wittgenstein is satisfied only with a characterization of inferring in which one passes directly from a linguistic establishment of the premisses to an action, in which, therefore, the specifically reflective element is eliminated. Language, too, appears under the aspect of behaviour ('language-game').

The other problematic tendency springs from the programme — already present in Wittgenstein's earlier philosophy — of strict division between the linguistic and the factual, a division also present in Carnap's *Syntax of Language*. That this division should have been retained in the new form of Wittgenstein's doctrine does not go without saying, because here the approach, compared with the earlier one, is in many respects less rigid. Signs of a certain change can in fact be observed, as, for instance, on p. 119, No. 18: 'It is clear that mathematics as a technique of transforming signs for the purpose of prediction has nothing to do with grammar.' Elsewhere (p. 125, No. 42) he even speaks of the 'synthetic character of mathematical propositions'. It is said there: 'It might perhaps be said that the synthetic character of mathematical propositions appears most obviously in the unpredictable occurrence of the prime numbers. But their being synthetic (in this sense) does not make them any the less *a priori* . . . The distribution of prime numbers would be an ideal example of what could be called synthetic *a priori*, for one can say that it is at any rate not discoverable by the analysis of the concept of a prime number.' As can be seen, Wittgenstein returns here from the concept 'analytic' of the Vienna Circle to a concept-formation which is more in the Kantian sense.

A certain approach to the Kantian conception is embodied also in Wittgenstein's view that it is mathematics which first forms the character, 'creates the forms of what we call facts' (see p. 173, No. 15). In this sense Wittgenstein also strongly opposes the opinion that the propositions of mathematics have the function of empirical propositions. On the other hand he emphasizes on various occasions that the applicability of mathematics, in particular of arithmetic, rests on empirical conditions; on p. 14, No. 37, for example, he says: 'This is how our children learn sums, for we make them put down three beans and then another three beans and then count what is there. If the result were at one time five, at another time seven . . . , then the first thing we should do would be to declare beans to be unsuitable for teaching sums. But if the same thing happened with sticks, fingers, strokes and most other things, then that would be the end of doing sums. — "But wouldn't it then still be that $2 + 2 = 4$?" — This sentence would then have become unusable.'

Statements like the following, however, remain important for Wittgenstein's conception (p. 160, No. 2): 'He who knows a mathematical proposition is supposed still to know *nothing*.' (The words in the German text are: 'soll noch nichts wissen'.) He repeats this twice at short intervals and adds: 'That is, the mathematical proposition is only to supply the scaffolding for a description.' In the manner of Wittgenstein we could here ask: 'Why is the person in question *supposed* to still know nothing?' What need is expressed by this 'supposed to'? It appears that only a preconceived philosophical view determines this requirement, the view, namely, that there can exist but one kind of factuality: that of concrete reality. This view conforms to a kind of nominalism as it figures also elsewhere in the discussions on the philosophy of mathematics. In order to justify such a nominalism Wittgenstein would have to go back further than he does in this book. At all events he cannot here appeal to our actual mental attitude. For indeed he attacks our tendency to regard arithmetic, for example, 'as the natural history of the domain of numbers' (see p. 117, No. 13 and p. 116, No. 11). However, he is not fully at one with himself on this point. He asks himself (p. 142, No. 16) whether 'mathematical alchemy' is characterized by the mere fact that mathematical propositions are regarded as statements about mathematical objects. 'In a certain sense it is not possible, therefore, to appeal to the meaning of signs in mathematics, because it is mathematics itself which first gives them their meaning. What is typical for the phenomenon about which I am speaking is that the *mysteriousness* about any mathematical concept is not *straight away* interpreted as a misconception, as a fallacy, but as something which is at all events not to be despised, which should perhaps even be respected. All that I can do is to show an easy escape from this obscurity and this glitter of concepts. It can be said, strangely enough, that there is so to speak a solid core in all these glistening concept-formations. And I should like to say that it is this which makes them into mathematical products.'

One may doubt whether Wittgenstein has succeeded here in showing 'an easy escape from this obscurity'; one may be more inclined to suspect that here the obscurity and the 'mysteriousness' actually have their origin in the philosophical concept-formation, i.e. in the philosophical language used by Wittgenstein.

The fundamental division between the sphere of mathematics and the sphere of facts appears in several passages in the book. In this connection Wittgenstein often speaks with a certitude which strangely contrasts with his readiness to doubt so much of what is generally accepted. The passage on p. 26, No. 80 is characteristic of this; he

says here: 'But of course you cannot get to know any property of the material by imagining.' Again we read on p. 29, No. 98: 'I can calculate in the imagination, but not experiment.' From the point of view of common experience all this certainly does not go without saying. An engineer or technician has doubtless just as lively an image of materials as a mathematician has of geometrical curves, and the image which any one of us may have of a thick iron rod is no doubt such as to make it clear that the rod could not be bent by a light pressure of the hands. And in the case of technical inventing, a major role is certainly played by experimenting in the imagination. Wittgenstein apparently uses here without being aware of it a philosophical schema which distinguishes the *a priori* from the empirical. To what extent and in what sense this distinction, which is so important particularly in the Kantian philosophy, is justified will not be discussed here; but in any case its introduction, particularly at the present time, should not be taken too lightly. With regard to the *a priori*, Wittgenstein's viewpoint differs from the Kantian viewpoint particularly by the fact that it includes the principles of general mechanics in the sphere of the empirical. Thus he argues, for example (p. 114, No. 4): 'Why are the Newtonian laws not axioms of mathematics? Because we could quite well imagine things being otherwise . . . To say of a proposition: "This could be imagined otherwise" . . . ascribes the role of an empirical proposition to it.' The concept of 'being able to imagine otherwise', also used by Kant, has the inconvenience of ambiguity. The impossibility of imagining something may be understood in various senses. This difficulty occurs particularly in geometry. This will be discussed later.

The previously mentioned tendency of Wittgenstein to recognize only one kind of fact becomes evident not only with regard to mathematics, but also with respect to any phenomenology. Thus he discusses the proposition that white is lighter than black (p. 30, No. 105) and explains it by saying that black serves us as a paradigm of what is dark, and white as a paradigm of what is light, which makes the statement one without content. In his opinion statements about differences in brightness have content only when they refer to specific visible objects and, for the sake of clarity, differences in the brightness of colours should not be spoken about at all. This attitude obviously precludes a descriptive theory of colours.

Actually one would expect Wittgenstein to hold phenomenological views. This is suggested by the fact that he often likes to draw examples from the field of art for the purpose of comparison. It is only the philosophical programme which prevents the development of an explicitly phenomenological viewpoint.

This case is an example of how Wittgenstein's method aims at eliminating a very great deal. He sees himself in the part of the free-thinker combating superstition. The latter's goal, however, is freedom of the mind; whereas it is this very mind which Wittgenstein in many ways restricts, through a mental asceticism for the benefit of an irrationality whose goal is quite undetermined.

This tendency, however, is by no means so extreme here in the later philosophy of Wittgenstein's as in the earlier form. One may already gather from the few passages quoted that Wittgenstein was probably on the way to giving mental contents more of their due.

A fact that may be connected with this is that, in contrast to the assertive form of philosophical statement throughout the *Tractatus*, a mainly aporetical attitude prevails in the present book. There lies here, it is true, a danger for philosophical pedagogics, especially as Wittgenstein's philosophy exerts a strong attraction on the younger minds. The old Greek observation that philosophical contemplation frequently begins in philosophical astonishment[4] today misleads many philosophers into holding the view that the cultivation of astonishment is in itself a philosophical achievement. One may certainly have one's doubts about the soundness of a method which requires young philosophers to be trained as it were in wondering. Wondering is heuristically fruitful only where it is the expression of an instinct of research. Naturally it cannot be demanded of any philosophy that it should make comprehensible all that is astonishing. Perhaps the various philosophical viewpoints may be characterized by what they accept as ultimate in that which is astonishing. In Wittgenstein's philosophy it is, as far as epistemological questions are concerned, sociological facts. A few quotations may serve to illustrate this. (p. 13, No. 35): '. . . how does it come about that all men . . . accept these figures as proofs of these propositions? Indeed, there is here a great — and interesting — agreement.' (p. 20, No. 63): '. . . it is a peculiar procedure: I *go through* the proof and then accept its result. — I mean: this is simply how we *do* it. This is the custom among us, or a fact of our natural history.' (p. 23, No. 74): 'When one talks about *essence* one is merely noting a convention. But here one would like to retort: "There is no greater difference than between a proposition about the depth of the essence and one about a mere convention." What, however, if I reply: "To the *depth* of the essence there corresponds the *deep* need for the convention." ' (p. 122, No. 30): 'Do not look on the proof as a procedure that *compels* you, but as one that *guides* you . . . But how does it come about that it so guides

[4] θαυμάζειν.

each one of us in such a way that we are influenced by it conformably? Now how does it come about that we agree in *counting*? "That is just how we are trained", one may say, "and the agreement produced in this way is carried further by the proof." '

II

So much then for the general characterization of the present observations by Wittgenstein. Their contents, however, is by no means exhausted in the general philosophical aspects that are here raised: various specific questions concerning the foundations of philosophy are discussed in detail. We shall deal in what follows with the principal viewpoints occurring here.

Let us begin with a question which concerns the problem previously touched on, that of the distinction between the *a priori* and the empirical: the question of geometrical axioms. Wittgenstein does not deal specifically with geometrical axioms as such. Instead, he raises generally the question as to how far the axioms of a mathematical system of axioms should be self-evident. He takes as his example the parallel axiom. Let us quote a few sentences from his discussion of the subject (p. 113, No. 2): 'What do we say when such an axiom is presented to us, for example, the parallel axiom? Has experience shown us that this is how it is? . . . Experience plays a part, but not the one we should *immediately expect*. For we have not, of course, made experiments and found that actually only *one* straight line through the given point fails to cut the other straight line. And yet the proposition is evident. — Suppose I now say: "It is quite indifferent why it should be evident. It is sufficient that we accept it. All that is important is how we use it" . . . When the wording of the parallel axiom, for example, is given . . . , the way of using this proposition, and hence its sense, is still quite undetermined. And when we say that it is evident to us, then we have by doing so already chosen, without realizing it, a certain way of using the proposition. The proposition is not a mathematical axiom if we do not employ it precisely *for this purpose*. The fact, that is, that here we do not make experiments, but accept the self-evidence, is enough to decide its use. For we are not so naive as to let the self-evidence count instead of the experiment. It is not the fact that it appears to us self-evidently true, but the fact that we let the self-evidence count, which makes it into a mathematical proposition.'

In discussing these statements it must first be borne in mind that we have to distinguish two things: whether we recognize an axiom

as geometrically valid, or whether we choose it as an axiom. The latter, of course, is not determined by the wording of the proposition. But here we are concerned with a rather technical question of deductive arrangement. However, what interests Wittgenstein here is surely the recognition of the proposition as geometrically valid. It is in this light that Wittgenstein's assertion ('that the recognition is not determined by the wording') must be considered, and it is in any case not immediately evident. He puts it so simply: 'We have not, of course, made experiments.' Admittedly, there has been no experimenting in connection with the formulation of the parallel axiom here considered, and this formulation does not lend itself to this purpose anyway. However, within the scope of the other geometrical axioms the parallel axiom is equivalent to one of the following statements of metrical geometry: 'In a triangle the sum of the angles is equal to two right angles. In a quadrilateral in which three angles are right angles the fourth angle is also a right angle. Six congruent equilateral triangles with a common vertex P (lying consecutively side by side) exactly fill up the neighbourhood of point P.' Such propositions — in which, it will be noted, there is no mention of the infinite extension of a straight line — can certainly be tested by experiment. As is known, Gauss did in fact check experimentally the proposition about the sum of the angles of a triangle, making use, to be sure, of the assumption of the linear diffusion of light. This is, however, not the only possibility of such an experiment. Thus Hugo Dingler in particular has emphasized that for the concepts of the straight line, the plane and the right angle there exists a natural and, so to speak, compulsory kind of experimental realization. By means of such an experimental realization of geometrical concepts, statements like in particular the second one above can be experimentally tested with great accuracy. Moreover, in a less accurate way they are continually being implicitly checked by us in the normal practice of drawing figures. Our instinctive estimation of lengths and of the sizes of angles can also be considered as the result of manifold experiences, and propositions which are to serve as axioms of elementary geometry must at all events agree with that instinctive estimation.

It cannot be maintained, therefore, that our experience plays no part in the acceptance of propositions as geometrically valid. But Wittgenstein does not mean that either. This becomes clear from what follows immediately after the passage quoted (p. 114, Nos. 4 and 5): 'Does experience teach us that a straight line is possible between any two points? . . . One could say: *Imagination* teaches us it. And this is where the truth lies; one has only to understand it

aright. *Before* the proposition the concept is still pliable. But might not experience cause us to reject the axiom? Yes. And nevertheless it does not play the part of an empirical proposition . . . Why are the Newtonian laws not axioms of mathematics? Because one could quite well imagine things being otherwise . . . Something is an axiom, *not* because we recognize it as extremely probable, indeed as certain, but because we assign it a certain function, and one which conflicts with that of an empirical proposition . . . The axiom, I would say, is another part of speech.' Further on (p. 124, No. 35) he says: 'What about, for example, the fundamental laws of mechanics? Whoever understands them must know on what experiences they are based. It is otherwise with the propositions of pure mathematics.'

In favour of these statements it must certainly be conceded that experience alone does not determine the theoretical recognition of a proposition. A more exact theoretical statement is always something which must be conceived beyond the facts of experience.

The view, however, that there exists in this respect such a fundamental difference between mathematical propositions and the principles of mechanics is scarcely justified. In particular the last quoted assertion that, in order to understand the basic laws of mechanics, the experience on which they are based must be known, can hardly be maintained. Of course, when mechanics is taught at the university, it is desirable that the empirical foundations should be made clear; this is, however, not for the purpose of the theoretical and practical manipulation of the laws, but for the epistemological consciousness and with an eye to the possibilities of eventually necessary modifications of the theory. Yet an engineer or productive technician in order to become skilled in mechanics and capable of handling its laws does not need to bother about how we came upon these laws. To these laws also applies what Wittgenstein so frequently emphasizes in reference to mathematical laws: that the facts of experience which are important for the empirical motivation of these propositions by no means make up the contents of that which is asserted in the laws. It is important for the manipulation of mechanical laws to become familiar with the concept-formations and to obtain some sort of evidence for these laws. This way of acquiring it is not only practically, but also theoretically significant: the theory is fully assimilated only by the process of rational shaping to which it is subsequently subjected. With regard to mechanics most philosophers and many of us mathematicians have little to say here, not having acquired mechanics in the said manner. — What distinguishes the case of geometry from that of mechanics is the (philosophically somewhat accidental) circumstance that the acquisition of

the world of concepts and of the evidence is for the most part already completed in an (at least for us) unconscious stage of mental development.

Ernst Mach's opposition to a rational foundation of mechanics has its justification in so far as such a foundation endeavours to pass over the role of experience in arriving at the principles of mechanics. We must keep in mind that concept-formations and the principles of mechanics comprise as it were an extract of experience. On the other hand it would be unjustified to reject outright on the basis of this criticism the efforts towards a construction of mechanics that is as rational as possible.

What is specific about geometry is the phenomenological character of its laws, and hence the important role of intuition. Wittgenstein points only in passing to this aspect: '*Imagination* teaches us it. And this is where the truth lies; one has only to understand it aright' (p. 8). The term 'imagination' is very general, and what is said at the end of the second sentence is a qualification which shows that the author feels the theme of intuition to be a very ticklish one. In fact it is very difficult to characterize satisfactorily the epistemological role of intuition. The sharp separation of intuition and concept, as it occurs in the Kantian philosophy, does not appear on closer examination to be justified. In considering geometrical thinking in particular it is difficult to distinguish clearly the share of intuition from that of conceptuality, since we find here a formation of concepts guided so to speak by intuition, which in the sharpness of its intentions goes beyond what is in a proper sense intuitively evident, but which separated from intuition has not its proper content. It is strange that Wittgenstein assigns intuition no definite epistemological role although his thinking is dominated by the visual. A proof is for him always a picture. At one time he gives a mere figure as an example of a geometrical proof. It is also striking that he never talks about the intuitive evidence of topological facts, such as for instance the fact that the surface of a sphere divides the (remaining) space into an inner and an outer part in such a way that the curve joining up an inside point with an outside one always passes over one point on the surface of the sphere.

Questions relating to the foundations of geometry and its axioms still belong primarily to the field of inquiry of general epistemology. What is today called in the narrower sense mathematical foundational research is mainly directed towards the foundations of arithmetic. Here one tends to eliminate as far as possible what is specific about geometry by splitting it up into an arithmetical and a physical side. We shall leave the question open whether this

procedure is justified; this question is not discussed by Wittgenstein. On the other hand he deals in great detail with the basic questions of arithmetic. Let us now take a closer look at his observations concerning this field of questions.

The viewpoint from which Wittgenstein regards arithmetic is not the usual one of the mathematician. Wittgenstein has concerned himself more with the theories on the foundations of arithmetic (in particular with the Russellian one) than with arithmetic itself. Particularly with regard to the theory of numbers, his examples seldom go beyond the numerical. An uninformed reader might well conclude that the theory of numbers consists almost entirely of numerical equations, which indeed are normally regarded not as propositions to be proved, but as simple statements. The treatment is more mathematical in the sections where he discusses questions of set theory, such as denumerability and non-denumerability, as well as the Dedekind cut theory.

Wittgenstein maintains everywhere a standpoint of strict finitism. In this respect he considers the various types of problem concerning infinity, such as exist for a finitist viewpoint, in particular the problem of the *tertium non datur* and that of impredicative definitions. The very forceful and vivid account he gives is well suited to conveying a clearer idea of the finitist's conception to those still unfamiliar with it. However, it contributes hardly anything essentially new to the argumentation; and those who consciously hold the view of classical mathematics will scarcely be convinced by it.

Let us discuss a few points in more detail. Wittgenstein deals with the question whether in the infinite expansion of π a certain sequence of numbers Φ, such as, say, '777', ever occurs. Adopting Brouwer's viewpoint he draws attention to the possibility that to this question there may not as yet be a definite answer. In this connection he says (p. 138, No. 9): 'However strange it sounds, the further expansion of an irrational number is a further development of mathematics.' This formulation is obviously ambiguous. If it merely means that the determination of a not yet calculated decimal place of an irrational number is a contribution to the development of mathematics, then every mathematician will agree with this. But since the assertion is held to be a 'strange sounding' one, certainly something else is meant, perhaps that the course of the development of mathematics at a given time is undecided and that this undecidedness can influence also the progress of the expansion of an irrational number given by definition, so that the decision as to what figure is to be put at the ten-thousandth decimal place of π would depend on the course of

the history of thought. Such a view, however, is not appropriate even according to the conception of Wittgenstein himself, for he says (p. 138, No. 9): 'The question . . . changes its status when it becomes decidable.' Now the digits in the decimal fraction expansion of π can be determined up to any chosen decimal place. Hence the view about the further development of mathematics does not contribute anything to the understanding of the situation in the case of the expansion of π. In this regard we can even say the following. Suppose we could maintain with certainty that the question of the occurrence of the sequence of numbers Φ is undecidable, then this would imply that the figure Φ never occurs in the expansion of π; for if it did occur, and if k were the decimal place which the last digit of Φ has on the first occurrence in the decimal fraction expansion of π, then the question whether the figure Φ occurs before the $(k+1)$th place would be a decidable question and could be answered positively, and thus the initial question would be answerable. (This argument by the way does not require the principle of the *tertium non datur*.)

Further on Wittgenstein repeatedly reverts to the example of the decimal fraction expansion of π; in one place in particular (p. 185, No. 34) we find an assertion which is characteristic of his view: 'Suppose that people go on and on calculating the expansion of π. An omniscient God knows, therefore, whether by the end of the world they will have reached a figure "777". But can his *omniscience* decide whether they *would* have reached this figure after the end of the world? It cannot do so . . . For him, too, the mere rule of expansion cannot decide anything that it does not decide for us.'

That is certainly not convincing. If we conceive the idea of a divine omniscience at all, then we would certainly ascribe to it the attribute of being able to survey at *one* glance a totality of which every single element is in principle accessible to us. We must pay here particular heed to the double role of the recursive definition of the decimal fraction expansion: on the one hand as the definitory fixing of the decimal fraction, and on the other as a means for the 'effective' calculation of decimal places. If we here take 'effective' in the usual sense, then even a divine intelligence can *effectively* calculate nothing other than what we are able to effectively calculate (no more than it would be capable of carrying out the trisection of an angle with a ruler and compass, or of deriving Gödel's underivable proposition in the related formal system); however, it is not inconceivable that this divine intelligence should be able to survey in another (not humanly effective) manner all the possible calculation results of the application of a recursive definition.

In his criticism of the theory of Dedekind's cut, Wittgenstein's main argument is that the extensional approach is mixed up in this theory with the intensional approach. This criticism is applicable in the case of certain versions of the theory where the tendency is to create the impression of a stronger constructive character of the procedure than is actually achieved. If one wants to introduce the cuts not as mere sets of numbers, but as defining arithmetical laws of such sets, then either one must utilize a quite vague concept of the 'law', thus gaining little; or, if one sets about clarifying the concept, one meets with the difficulty which Hermann Weyl termed the vicious circle in the foundation of analysis and which for some time back was sensed instinctively by various mathematicians, who thereupon advocated a restriction of the procedure of analysis. This criticism of impredicative concept-formation even today plays a considerable role in the discussions on the foundations of mathematics. However, difficulties are not encountered if the extensional standpoint is consistently retained, and Dedekind's conception can certainly be understood in this sense and was probably so understood by Dedekind himself. All that is required here is that we should recognize, besides the concept of number itself, also the concept of a set of natural numbers (and in consequence of this the concept of a set of fractions, too) as an intuitively significant concept not requiring reduction. This implies a certain renunciation in respect of the goal of arithmetizing analysis, and thus geometry, too. 'But' — one could here ask in the Wittgensteinian manner — 'must geometry be entirely arithmetized?' Scientists are often very dogmatic in their attempts at reductions. They are frequently inclined to treat such an attempt as completely successful even when it succeeds not in the manner intended but only in some measure and with a certain degree of approximation. Where such standpoints are encountered, considerations of the kind suggested by Wittgenstein's book can be very valuable.

Wittgenstein's detailed discussion of Dedekind's proof is not satisfactory. Some of his objections can be disposed of simply through a clearer account of Dedekind's line of thought.

In the discussion of denumerability and non-denumerability, the reader must bear in mind that Wittgenstein always understands by cardinal number a finite cardinal number, and by a series one of the order type of the natural numbers. The polemics against the theorem of the non-denumerability of the totality of real numbers is unsatisfactory in so far as the analogy between the concepts 'non-denumerable' and 'infinite' is not brought out clearly. Corresponding to the way in which 'infinity of a totality G' can be defined as the

property whereby to a finite number of things out of G there can always be assigned a further one, the non-denumerability of a totality G is defined by the property that to every denumerable sub-totality there can be assigned an element of G not yet contained in the sub-totality. In this sense the non-denumerability of the totality of real numbers is demonstrated by the diagonal procedure, and there is nothing foisted in here, as would appear to be the case according to Wittgenstein's argument. The theorem of the non-denumerability of the totality of real numbers is attainable without comparison of the transfinite cardinal numbers. Besides — this is often disregarded — there exist for that theorem other proofs more geometrical than the one provided by the diagonal procedure. From the point of view of geometry we have here a rather gross fact.

It is also strange to find the author raising a question like this: 'How then do we make use of the proposition: "There is no largest [scil. finite] cardinal number."? . . . First and foremost it is to be noticed that we put the question at all, which indicates that the answer is not obvious' (p. 57, No. 5). We might think that one need not spend long searching for the answer here. Our entire analysis with its applications in physics and technology rests on the infinity of the series of numbers. The theory of probability and statistics make continually implicit use of this infinity. Wittgenstein argues as though mathematics existed almost solely for the purposes of housekeeping.

The finitist and constructive attitude on the whole taken by Wittgenstein towards the problems of the foundations of mathematics conforms to the general tendency of his philosophizing. However, it can hardly be said that he finds a confirmation for his viewpoint in the situation of the foundational investigations. All that he shows is how this standpoint has to be applied when engaging in the questions in dispute. It is generally characteristic of the situation with regard to the foundational problems that the results obtained hitherto clearly favour neither the one nor the other of the main two opposing philosophical views — the finitist-constructive and the 'Platonic'-existential view. Either of the two views can advance arguments against the other. The existential conception, however, has the advantage of enabling us to appreciate the investigations directed towards the establishment of elementary constructive methods (just as in geometry the investigation of constructions with ruler and compass has significance even for a mathematician who admits other methods of construction), while for the strictly constructivist view a large part of classical mathematics simply does not exist.

To some extent independent of the partisanship in the mentioned opposition of viewpoints are those observations of Wittgenstein's which concern the role of formalization, the reduction of number theory to logic, and the question of consistency. His views here show more independence, and these considerations are therefore of greater interest.

With regard to the question of consistency he asserts in particular what has meanwhile also been stressed by various other investigators in the field of foundational research: that within the bounds of a formal system the contradiction should not be considered solely as a deterrent, and that a formal system as such can still be of interest even when it leads to a contradiction. It should be observed, however, that in the former systems of Frege and Russell the contradiction already arises within a few steps, almost directly from the basic structure of the system. Furthermore, much of what Wittgenstein says in this connection overshoots the mark by a long way. Particularly unsatisfactory is the frequently quoted example of the producibility of contradictions by admitting division by nought. (One need only consider the foundation of the rule of reduction in order to see that this is not applicable in the case of the factor nought.)

Wittgenstein recognizes at all events the importance of demonstrating consistency. Yet it is doubtful whether he is sufficiently well aware of the role played by the condition of consistency in the reasoning of proof-theory. Thus the discussion of Gödel's theorem of non-derivability in particular suffers from the defect that Gödel's quite explicit premiss of the consistency of the considered formal system is ignored. A fitting comparison, which is drawn by Wittgenstein in connection with the Gödelian proposition, is that between a proof of formal unprovability and a proof of the impossibility of a certain construction with ruler and compass. Such a proof, Wittgenstein says, contains an element of prediction. The remark which follows, however, is strange (p. 52, No. 14): 'A contradiction is unusable as such a prediction.' Such proofs of impossibility in fact always proceed by the deduction of a contradiction.

In his considerations on the theory of numbers Wittgenstein shows a noticeable reserve towards Frege's and Russell's foundation of number theory, such as was not to be found in the earlier stages of his philosophy. Thus he says on one occasion (p. 67, No. 4): '. . . the logical calculus is only — frills tacked on to the arithmetical calculus.' This thought had hardly been formulated previously as pregnantly as here. It might be appropriate to reflect on the sense in which the assertion holds good. There is no denying that the attempt at incorporating the arithmetical, and in particular, the numerical

propositions into logistic has been successful. That is to say, it has proved possible to formulate these propositions in purely logical terms and to prove them within the domain of logistic on the basis of this formulation. Whether this result may be regarded as yielding a proper philosophical understanding of the arithmetical propositions is, however, open to question. When we consider the logistical proof of an equation such as $3 + 7 = 10$, we observe that within the proof we have to carry out quite the same comparative verification which occurs in the usual counting. This necessity shows itself particularly clearly in the formalized form of logic; but it is also present when we interpret the content of the formula logically. The logical definition of three-numberedness (Dreizahligkeit), for example, is structurally so constituted that it to some extent contains within itself the element of three-numberedness. The property possessed by the predicate P (or by the class that forms the extension of P) of being three-numbered is indeed defined by the condition that there exist things x, y, z having the property P and differing each from the others, and that further everything having the property P is identical with x or y or z. Now the conclusion that for a three-numbered predicate P and a seven-numbered predicate Q, in the case that the predicates do not apply in common to one thing, the alternative $P \vee Q$ is a ten-numbered predicate, requires for its foundation just the kind of comparison that is used in elementary arithmetic — only that now an additional logical apparatus (the 'frills') comes into operation. When this is clearly realized, it appears that the proposition of the logical theory of predicates is valid because $3 + 7 = 10$, and not vice versa.

Thus in spite of the possibility of incorporating arithmetic into logistic, arithmetic constitutes the more abstract ('purer') schema; and this appears paradoxical only because of a traditional, but on closer examination unjustified view according to which logical generality is in every respect the highest generality.

Yet it might be good to look at yet another aspect of the matter. According to Frege a number (Anzahl) is to be defined as the property of a predicate. This view already presents difficulties for the normal use of the number concept; for in many contexts where a number occurs, the indication of a predicate of which it is the property proves to be highly forced. In particular it should be noted that numbers occur not only in statements: they also occur in directions and in demands or requests — such as when a housewife says to an errand-boy: 'Fetch me ten apples.'

The theoretical elaboration of this conception is not without complications either. A definite number does not generally belong

as such to a predicate, but only with reference to a domain of things, a universe of discourse (apart from the many cases of extra-scientific predicates to which no definite number at all can be ascribed). Thus it would be more accurate to characterize a number as a relation between a predicate and a domain of individuals. In Frege's theory, it is true, this complication does not arise since he presupposes what might be called an absolute domain of individuals. But, as we know, it is precisely this starting point which leads to the contradiction noted by Russell. Apart from this, the Fregian conception of his predicate theory, in which the value distributions (extensions) of the predicate are treated as things quite on a par with ordinary individuals, already implies a clear deviation from our customary logic in the sense of a theoretical construction of a formal derivative frame. The idea of such a frame has retained its methodological importance, and the question as to the most favourable formation of it is still one of the main problems in foundational theory. However, with respect to such a frame one can speak of a 'logic' only in an extended sense; logic in its usual sense, stating merely the general rules for deductive reasoning, must be distinguished from the latter.

Wittgenstein's criticism of the incorporation of arithmetic into logic is, it is true, not advanced in the sense that he recognizes arithmetical theorems as stating facts *sui generis*. His tendency is rather to deny altogether that such theorems express facts. He even declares it to be the 'curse of the invasion of mathematics by mathematical logic that any proposition can now be represented in mathematical notation and we thus feel obliged to understand it, although this way of writing is really only the translation of vague, ordinary prose' (p. 155, No. 46). Indeed he recognizes calculating only as an acquired skill with practical utility. In particular, he seeks to explain away in a definitory manner what is factual about arithmetic. Thus he asks, for instance (p. 33, No. 112): 'What do I call "the multiplication 13×13"? Only the correct pattern of multiplication at the end of which comes 169? Or a "wrong multiplication" too?' Likewise, the question often arises as to what it is that we 'call calculating' (p. 97, No. 73). And on p. 92, No. 58 he argues: 'Suppose one were to say that by calculating we become acquainted with the properties of numbers. But do the properties of numbers *exist* outside of calculating?' The tendency is apparently to take the correct additions and multiplications as defining calculating and to characterize them as 'correct' in a trivial manner. But one cannot succeed in this way, i.e. one cannot express in this way the many facts of relatedness which appear in the numerical computations. Let us take, say, the associativity of addition. It is

certainly possible to fix by definition the addition of the single figures. But then the strange fact remains that the addition $3+(7+8)$ gives the same result as $(3+7)+8$, and that the same holds whatever numbers replace 3, 7, 8. The number-theoretic expressions are, from the definitory point of view, so to speak, over-determined. It is indeed on this kind of over-determinateness that the many checks are based of which we may make use in calculating.

Occasionally Wittgenstein raises the question as to whether the result of a calculation carried out in the decimal system is also valid for the comparison of numbers carried out by means of the direct representation with sequences of strokes. The answer to this is to be found in the usual mathematical foundation of the method of calculating with decadic figures. Yet here Wittgenstein touches upon something fundamental: the proofs to be given for the justification of the decadic rules of calculation rest, if they are obtained in a finitist way, upon the assumption that every number we can form decadically is producible also in the direct stroke notation, and that the operations of concatenation, etc., as also of comparison, are always performable with such stroke sequences. From this it appears that the finitistic theory of numbers, too, is not in the full sense 'concrete', but utilizes idealizations.

The previously mentioned assertions in which Wittgenstein speaks of the synthetic character of mathematics are in a certain apparent contrast with the tendency to regard numerical calculating as being characterized merely by way of definition and to deny that arithmetical propositions have the character of facts. In this connection the following passage may be noted (p. 160, No. 3): 'How can you maintain that " . . . 625 . . . " and " . . . 25×25 . . . " say the same thing? — It is only through our arithmetic that they *become one*.'

What is meant here is about the same thing that Kant had in mind in the argument against the view that $7+5 = 12$ is a merely analytical proposition, and where he contends that the concept 12 'is by no means already conceived through my merely conceiving this union of 7 and 5', and then adds: 'That 7 *are to be* added to 5, I have, it is true, conceived in the concept of a sum $= 7+5$, but not that this sum is equal to the number 12' (*Critique of Pure Reason*, B 14ff.). The Kantian argument could be expressed in a modern form somewhat as follows. The concept '$7+5$' is an individual concept (in accordance with Carnap's terminology) expressible by the description $\iota_x\,(x = 7+5)$, and this concept is different from the concept '12'; the only reason for this not being so obvious is that we involuntarily carry out the addition of the small numbers 7 and 5 directly. We have here the case, so often discussed in the new logic

following Frege, of two terms with a different 'sense' but the same 'Bedeutung' (called 'denotation' by A. Church); in order to determine the synthetic or analytic character of a judgment one must, of course, always go by the sense, not the 'Bedeutung'. The Kantian thesis that mathematics is of a synthetic character does not at all conflict with what the Russellian school maintains when it declares the propositions of arithmetic to be analytic. We have here two entirely different concepts of the analytic — a fact which in recent times has been pointed out in particular by E. W. Beth.[5]

A further intrinsic contrast is to be found in Wittgenstein's attitude towards logistic. On the one hand, he often tends to regard proofs as formalized proofs. Thus he says on p. 93, No. 64: 'Suppose I were to set someone the problem: "Find a proof of the proposition . . . " — The solution would surely be to show me certain signs.' The distinctive and indispensable role of everyday language compared with that of a formalized language is not given prominence in his remarks. He often speaks of the 'language game' and by no means restricts the use of this expression to the artificial formal language, for which alone it is indeed appropriate. Our natural language has in no way the character of a game; it is peculiar to us, almost in the way our limbs are. Apparently Wittgenstein is still governed by the idea of a language of science comprehending the whole of scientific thought. In contrast with this are the highly critical remarks on usual mathematical logic. Apart from the one already mentioned concerning 'the curse of the invasion of mathematics by mathematical logic', the following in particular is worthy of notice (p. 156, No. 48): ' "Mathematical logic" has completely distorted the thinking of mathematicians and philosophers by declaring a superficial interpretation of the forms of our everyday language to be an analysis of the structures of facts. In this, of course, it has only continued to build on the Aristotelian logic.'

We shall come closer to the idea which probably underlies this criticism if we bear in mind that logical calculus was intended by various of its founders as a realization of the Leibnizian conception of the *characteristica universalis*. As to Aristotle, Wittgenstein's criticism, if we look at it more closely, is not directed against him. For all that Aristotle wanted to do with his logic was to fix the usual forms of logical argumenting and to test their legitimacy. The task of the *characteristica universalis*, however, was intended to be a much larger one: to establish a concept-world which would make possible

[5] 'Over Kants Onderscheiding von synthetische en analytische Oordeelen', *De Gids*, vol. 106, 1942. Also: The 'Foundations of Mathematics', *Studies in Logic*, Amsterdam, 1959, pp. 41-47.

an understanding of all connections existing in reality. For an undertaking aimed at this goal, however, it cannot be taken for granted that the grammatical structures of our language have to function as the basic framework of the theory; for the categories of this grammar have a character that is at least partially anthropomorphic. Yet nothing even approaching the same value has hitherto been devised in philosophy to replace our usual logic. What Hegel in particular put in place of the Aristotelian logic in his rejection of it is a mere comparison of universals by way of analogies and associations, without any clearly regulative procedure. This certainly cannot pass as any sort of approach to the fulfilment of the Leibnizian ideas.

From Wittgenstein, however, we can obtain no guidance on how conventional logic may be replaced by something philosophically more efficient. He probably considered an 'analysis of the structures of facts' to be a task wrongly set. Indeed he did not look for a procedure determined by some directive rules. The 'logical compulsion', the 'inexorability of logic', the 'hardness of the logical must' are always a stumbling block for him and ever again a cause of amazement. Perhaps he does not always realize that all these terms have the character of merely a popular comparison which in many respects is inappropriate. The strictness of the logical and the exact does not limit our freedom. Our very freedom enables us to achieve precision through thought in a perceptive world of indistinctness and inexactness. Wittgenstein speaks of the 'must of kinematics' being 'much harder than the causal must' (p. 37, No. 121). Is it not an aspect of freedom that we can conceive virtual motions subject merely to kinematic laws, as well as real, causally determined motions, and can compare the former with the latter?

Enlightened humanity has sought in rational definiteness its liberating refuge from the dominating influence of the merely authoritative. At the present time, however, this has for a large part been lost to consciousness, and to many people scientific validity that has to be acknowledged appears as an oppressing authority.

In Wittgenstein's case it is certainly not this aspect which evokes his critical attitude towards scientific objectivity. Nevertheless, his tendency is to understand the intersubjective unanimity in the field of mathematics as an heteronomous one. The agreement, he believes, is to be explained by the fact that we are in the first place 'trained' in common in elementary technique and that the agreement thus created is continued through the proofs (cf. quotation on p. 195). That this kind of explanation is inadequate might occur to anybody not attracted by the impression of originality of the aspect. The

mere possibility of the technique of calculating with its manifold possibilities of decomposing a computation into simpler parts cannot be regarded merely as a consequence of agreement (cf. remark on pp. 17 and 18). Furthermore, when we think of the enormously rich concept-formations towered up on each other, as for instance in function theory — where one can say of the theorems obtained at any stage what Wittgenstein once said: 'We lean on them or rest on them' (p. 124, No. 35) — we see that the conception mentioned does not in any way explain why these conceptual edifices are not continually collapsing. Considering Wittgenstein's viewpoint, it is, in fact, not surprising that he does not feel the contradiction to be something odd; but what does not appear from his account is that contradictions in mathematics are to be found only in quite peripheral extrapolations and nowhere else. In this sense one can say that the fact of mathematics does not become at all understandable through Wittgenstein's philosophy. And it is not his anthropological point of view which gives rise to the difficulty.

Where, however, does the initial conviction of Wittgenstein's arise that in the region of mathematics there is no proper knowledge about objects, but that everything here can only be techniques, standards and customary attitudes? He certainly reasons: 'There is nothing here at all to which knowing could refer.' That is bound up, as already mentioned, with the circumstance that he does not recognize any kind of phenomenology. What probably induces his opposition here are such phrases as the one which refers to the 'essence' of a colour; here the word 'essence' evokes the idea of hidden properties of the colour, whereas colours as such are nothing other than what is evident in their manifest properties and relations. But this does not prevent such properties and relations from being the content of objective statements; colours are not just a nothing. Even if we do not adopt the pretensions of the philosophy of Husserl with regard to 'intuition of the essence', that does not preclude the possibility of an objective phenomenology. That in the region of colours and sounds the phenomenological investigation is still in its beginnings is certainly bound up with the fact that it has no great importance for theoretical physics, since in physics we are induced, at an early stage, to eliminate colours and sounds as qualities. Mathematics, however, can be regarded as the theoretical phenomenology of structures. In fact, what contrasts phenomenologically with the qualitative is not the quantitative, as is taught by traditional philosophy, but the structural, i.e. the forms of being beside and after, and of being composite, etc., with all the concepts and laws that relate to them.

Such a conception of mathematics leaves the attitude towards the

problems of the foundations of mathematics still largely undetermined. Yet, for anyone proceeding from the Wittgensteinian conception, it can open the way to a viewpoint that does greater justice to the peculiarity and the comprehensive significance of mathematics.

(Translated from the German)

ON THE NATURE OF PURE AND APPLIED MATHEMATICS

By S. KÖRNER

A PHILOSOPHY of mathematics has to address itself both to a general problem and to specific questions. The general problem arises from reflection on any mathematical theory and its actual or possible application. It has to give an account of the logical status of the concepts, propositions and theories of pure and applied mathematics. The specific questions, e.g. those connected with the notions of transfinite cardinal numbers, arise from the construction, development and application of particular mathematical theories. The concern of the present paper is with the general problem. It aims to outline a philosophy of pure and applied mathematics, up to a point where its main theses can be clearly grasped and compared with other positions.

Perhaps the most distinctive feature of what is here to be presented consists in the exhibition, in some detail, of the difference between exact and inexact concepts, and of the relevance of this to the distinction between mathematical concepts and perceptual characteristics. The plan of the argument is as follows. In *section 1* the familiar logical relations between exact concepts will be discussed in such a manner as to facilitate the discussion of the less familiar logical relations between inexact concepts. The latter will be done in *section 2*. In *section 3* some simple propositions about the relations between exact and inexact concepts will be established. These will be used in *section 4* to show — in a precise sense of the term — the disconnectedness of mathematics from perception. A discussion of mathematical existence-theorems in *section 5* will enable us to formulate a thesis concerning the nature of pure mathematics. Then, in *section 6*, on the basis of the preceding discussion, a thesis will be formulated concerning the nature of applied mathematics. Lastly, in *section 7*, some other views on the nature of pure and applied mathematics will be briefly discussed.

I shall as far as possible try throughout to avoid obscuring philosophical issues, which are difficult enough, by importing difficulties of a purely mathematical kind.

(1) *The logical relations between exact concepts.* It seems impossible to state exhaustively the conditions which one fulfils when one uses a thing as a sign; more particularly, when one uses it as a concept (attribute, predicate, propositional function, etc.). For present

purposes it will be sufficient to emphasize some of these conditions. A thing, then, is used as a sign — or, more briefly and less precisely, a thing *is* a sign — only if correct and incorrect uses of it can be distinguished. That is to say, one must be able in principle to formulate rules for its use — rules which are capable both of being conformed to and of being violated by the behaviour of a person to whom an intention of conforming to them can be properly imputed. The grounds for the imputation may be such as to justify us in stating that the person in question is fully aware of his intention or merely that he behaves as if he had it. Between these extremes lies a great variety of intermediate cases. All these possibilities will be covered by saying that the person has adopted the rules and, when there is not any need to specify the adopter, that the rules govern the sign.

A sign is a concept (attribute, predicate, propositional function, etc.) only if the rules governing it include a rule of reference, i.e. a rule for its being assigned to objects or refused to them; in the wide sense of the term 'object' which covers physical things, events, colours, numbers, geometrical patterns — in short everything capable of having signs assigned to it. It is worth emphasizing that this use of the term is entirely independent of particular ontological convictions as to which objects are and which are not 'real'. Such ontologies are usually implemented — though not discovered — by a suitable distinction between complete (categorematic, autosemantic) and incomplete (syncategorematic, synsemantic) symbols; and what follows can easily be reconciled with anybody's favourite ontology, and consequent theory of incomplete symbols and their proper contextual definitions.

I call a concept, say A, and a rule of reference governing it, say $\mathrm{r}(A)$, *exact* if the following results of applying the concept in accordance with $\mathrm{r}(A)$ are possible: (*a*) the assignment of A to some object conforms to the rule, whereas the refusal of A to the object would violate it. In this case the object will be called a 'positive candidate' for A and it will be called 'a positive instance' of A with respect to any person who has adopted the rule and makes the assignment. (*b*) The refusal of A to some object conforms to $\mathrm{r}(A)$ whereas the assignment would violate it. In this case the object will be called a 'negative candidate' for A and with respect to any person who has adopted the rule and made the refusal a 'negative instance' of A.

An exact concept has thus no border-line or neutral candidates to which it could be assigned or refused with equal correctness. It may, in fact or in principle, be impossible to decide whether the assignment or refusal of such a concept to a particular object would conform

to the rules governing the concept. But such cases of undecidability must be distinguished from neutral candidates. For an object is a neutral candidate for a concept *not* if we do not, or cannot, know whether the assignment or refusal is correct, but if both the assignment and the refusal conform to the rule governing the concept.

It is obvious that one of the following logical relations must hold between any two exact concepts, say A and B: (i) $A < B$, $B < A$, $A \leqslant B$ (two unilateral inclusions, one bilateral); (ii) A/B (exclusion); (iii) $A \mathsf{O} B$ (proper overlap, each concept having at least one positive candidate in common, and one not shared with the other). These relations are logical in the sense that they do not depend on any particular application of A and B to objects and that they cannot change as the result of their application to further objects. In order to prepare the ground for a better understanding of the logic of inexact concepts I shall express these logical relations between exact concepts in a more roundabout way.

Let A be governed by $r(A)$, B by $r(B)$ and let S_1 be any finite collection of objects. Apply A and B to all the members of S_1 collecting the positive instances of A into the finite set $[A]_1$ and the positive instances of B into the finite set $[B]_1$. The relation between the two associated sets — associated with A, B and S_1 — is obviously either (i) $[A]_1 < [B]_1$ etc. or (ii) $[A]_1/[B]_1$ or (iii) $[A]_1 \mathsf{O} [B]_1$. It is, however, *not* a logical relation between A and B since it does depend on the application of A and B to particular objects and may change as the result of their further application to objects.

Let us now amplify S_1 by adding one or more further objects to it, thus forming S_2; and apply A and B to all members of S_2. This yields the associated sets $[A]_2$ and $[B]_2$. The possible relations between them are the same as before; but the relation between the new sets $[A]_2$ and $[B]_2$ need not be the same as that between $[A]_1$ and $[B]_1$. An overlap is always preserved, but an inclusion or an exclusion may change into an overlap. If the relation between the original and the amplified associated sets is the same I shall say that the relation has been preserved (in the amplification).

It is now possible — and there is a point in it — to express the possible logical relations between two exact concepts in terms of the preservability of the relations between their associated sets: (1) $A < B$, if and only if inclusion is the only preservable relation between any two associated sets of A and B (similarly for $B < A$ and $A \leqslant B$); (2) A/B, if and only if exclusion is the only preservable relation; (3) $A \mathsf{O} B$, if and only if overlap is the only preservable relation.

(2) *Logical relations between inexact concepts.* In defining the notions

of inexact concepts and the logical relations between them we may follow a procedure quite parallel to the one adopted in dealing with exact concepts and the logical relations between them.

I call a concept, say P, and a rule for its assignment or refusal to objects 'inexact' if two conditions are fulfilled. The *first* concerns the possible results of applying P to certain particular objects, namely possibilities (a) and (b) as discussed in the preceding section, and the further possible result that (c) *both* the assignment and the refusal of P to a particular object conform to the rule. The object will in this case be called a 'neutral' or 'border-line' candidate for P; while for a person making the assignment it will be a positive, for one making the refusal a negative instance of P. It is in considering inexact concepts and neutral candidates that our distinction between the 'candidates for' and the 'instances of' a concept acquires its point.

The second condition concerns the nature of the positive, negative and neutral candidates for any inexact concept P. It is that we cannot define a concept R by requiring that its positive candidates be the neutral candidates for P; for R would again be inexact, i.e. admit of positive, negative and neutral candidates.

The logical relations between inexact concepts can be defined just as the familiar logical relations between exact ones can, in terms of the preservability of the relation between their associated sets. Consider two inexact concepts P and Q governed by rules of reference $r(P)$ and $r(Q)$ and a finite collection of objects S_1. We apply each of the inexact concepts to each member of S_1 and form the associated sets $[P]_1$ and $[Q]_1$. The relations between them, which are again not logical relations between P and Q, are $[P]_1 < [Q]_1$ or $[P]_1/[Q]_1$ or $[P]_1 \mathrm{O} [Q]_1$. We now add one or more objects to S_1 amplifying it thus into S_2 and form $[P]_2$ and $[Q]_2$ – the sets associated with P,Q and the finite collection S_2. Their relations are again inclusion, exclusion or overlap. As in the case of exact concepts the relation between the original associated sets and that between the new associated sets may or may not be the same. In other words, the original relation may or may not be preserved in the amplification – overlap being always preserved, inclusion and exclusion possibly changing into overlap.

An important difference between the relations of exact to exact concepts and of inexact to inexact must, however, be noted. This is due to the fact that the rules governing the latter admit of neutral candidates. Let us assume that we have amplified S_1 into S_2 by adding to S_1 a *neutral candidate* for both P and Q. (Such common neutral candidates may, but need not be, available.) If $[P]_1 \mathrm{O} [Q]_1$ then, of course, $[P]_2 \mathrm{O} [Q]_2$. But if $[P]_1 < [Q]_1$ then the inclusion

may be preserved or it may be changed into an overlap. If we elect, e.g. the common neutral candidate of P and Q as a positive instance of both P and Q, the result is $[P]_2 < [Q]_2$, but if we elect it as as a positive instance of P and a negative instance of Q, the result is $[P]_2 O [Q]_2$. Similarly if $[P]_1/[Q]_1$ then different elections of a common neutral candidate may result in $[P]_2/[Q]_2$ and also in $[P]_2 O [Q]_2$. These possibilities affect the definition of the logical relations between inexact concepts — to be given in terms of the preservability of the relations between associated sets.

If P and Q are inexact concepts we can, apart from (1), (2), (3), define the following logical relations between them: (4) $P \otimes Q$, if and only if *both* inclusion and overlap are preservable; (5) POQ, if and only if both exclusion and overlap are preservable. The last two logical relations are quite different from any logical relation between exact concepts. In particular $P \otimes Q$ (both inclusion *and* overlap preservable) is not to be confused with: $P < Q$ or POQ (either inclusion or overlap preservable). Similarly $P \oslash Q$ must not be confused with: P/Q or POQ. (4) may be called 'inclusion-overlap', (5) 'exclusion-overlap'.

The difference between exact and inexact concepts forces us to reconsider the notion of complementary concepts. If a concept, say A, is exact, then A' is, of course, its complement, if and only if the positive and negative candidates for A are respectively the negative and positive candidates for A'. But if a concept, say P, is inexact we must account for the neutral candidates for it and its complement. This is done by defining P' as the complement of P if, and only if, as before, the positive and negative candidates for P' are respectively the negative and positive candidates for P, and if, further, the neutral candidates for P and P' are the same.

Inexact concepts which admit of neutral candidates leave room for conventions dealing with them. These conventions must be considered, however briefly, since a misunderstanding of their function might obscure the fundamental difference between exact and inexact concepts.[1] Two types of conventions may be distinguished — general, which are adopted for dealing with neutral candidates for any inexact concepts, and special, which are adopted for dealing with neutral candidates for specific concepts only. One example of each type will suffice for our purposes.

Consider any inexact concept P governed by $r(P)$. Since any neutral candidate for P may be elected as a positive or as a negative instance of it, the logical relation which P bears to itself is $P \otimes P$;

[1] For a fuller discussion see 'Reference, Vagueness and Necessity', *Philosophical Review*, vol. LXVI, July 1957.

and that of P to P' is $P\emptyset P'$. We may, however, supplement every rule $r(P)$ by adopting the general convention to the effect that a neutral candidate which has been elected as a positive (negative) instance of P must not also be elected as a negative (positive) instance of it. By adopting this convention we superimpose, as it were, $P < P$ on the original $P \oslash P$ and P/P' on $P\emptyset P'$. Again, if for two particular concepts P and Q – say 'light green' and 'green' – $P \oslash Q$, and thus P/Q' we may adopt the special convention that if any neutral candidate of P has been elected as a positive instance of P it must also be elected as a positive instance of Q. In this way $P < Q$ is superimposed on the original $P \oslash Q$ and P/Q' on $P\emptyset Q'$.

The point which needs to be emphasized is that a general or a special convention for dealing with the neutral candidates for inexact concepts does *not* change them into, or replace them by, exact ones. The convention, as I have put it, deals with neutral cases; but it does not abolish them. Consider for example the concepts 'perceptually straight line' and 'perceptually curved line' which admit of common neutral cases. The convention that no neutral candidate for either concept be elected as a positive instance of either, only tells us that we must not assign both concepts to such a neutral candidate. It does not tell which of the two concepts to assign or refuse. The position is quite different in the case of the two exact concepts 'geometrically straight line' (with constant curvature = O) and 'geometrically curved line' (with curvature not everywhere = O). These two concepts have neither separate nor joint neutral candidates, and there is no room for any convention for dealing with them.

The intrinsic interest and general philosophical significance of inexact concepts has been recognized by a number of recent and contemporary philosophers.[2] They differ entirely in approach, however, from the one which – in bare outline and only to the extent necessary for the problem under discussion – has been given here.

(*3*) *On the logical relations between exact and inexact concepts.* The preceding discussion of the logical relations which exact concepts bear to exact, and inexact to inexact, has some consequences for the logical relations between exact and inexact concepts.

It is first of all easy to see that no exact concept includes, and is included in, any inexact. Let A be exact and P inexact and assume,

[2] E.g. B. Russell, 'On Vagueness', *Australasian Journal of Psychology and Philosophy*, vol. I, 1923; L. Wittgenstein, *Philosophical Investigations*, Oxford, 1953; F. Waismann, 'Verifiability', *Proc. Aristotelian Society*, suppl. vol. XIX, 1945; M. Black, 'Vagueness' in *Language and Philosophy*, Ithaca, N.Y., 1949.

if possible, that $A < P$ and $P < A$; or, to express the same relationship in terms of their complements, that $P' < A'$ and $A' < P'$. Here P and its complement P', as inexact concepts, admit of neutral candidates; and they have, moreover, as complements of each other, the same neutral candidates. Since any of these can be elected both as a positive and as a negative instance of P — or, what comes to the same thing, as a negative and positive instance of P' — we should have, contrary to our assumption $P \ominus A$ or $A \ominus P$. (Since A has no neutral candidates, there can be no neutral candidates common to A and P and to A' and P', and thus no special conventions for dealing with them.)

In what follows we shall be interested in a particular kind of exact concept which for the sake of brevity I shall call 'purely exact'. A concept is purely exact if every genus of it (every concept including it) and every species of it (every concept included in it) is also exact. By this definition no purely exact concept either includes or is included in any inexact concept. We shall say that inexact and purely exact concepts are (logically) unconnected.

It might be argued that there are concepts — such as 'having colour', 'having shape', and some other so-called 'determinables' — which, though themselves exact, have only inexact species. Whether or not such concepts are employed, it is clear that any such, say D, is unconnected with any purely exact concept, say A; in other words, neither $D < A$ nor $A < D$. For $D < A$ would mean that any inexact species of D would be a species of A, when by definition A has only exact species. And $A < D$ would mean that D has exact species which, again by definition, it has not.

Taken together, the two propositions (i) that purely exact concepts are unconnected with inexact and (ii) that purely exact concepts are likewise unconnected with those exact ones whose species are all inexact, hardly amount to more than merely one further acknowledgment of the difference between exact and inexact concepts. Indeed they are so trivial that it would be inexcusable to set them down if nothing of philosophical significance turned on their truth. Their importance, as I shall presently argue, lies in their relevance to the understanding of the nature of pure and applied mathematics.

(*4*) *Pure mathematics and perception.* Frege requires explicitly that none but exact concepts be admitted into logic and mathematics, and the same requirement is implied in Cantor's definition of a set.[3]

[3] G. Frege, *Grundgesetze der Arithmetik*, vol. II, Jena, 1903, § 56; G. Cantor, 'Beiträge zur Begründung der transfiniten Mengenlehre', *Mathematische Annalen*, 1895 (see e.g. his definition of a set).

The requirement is in fact satisfied by all systems of set-theory, arithmetic, analysis, geometry and formal logic, which have so far been developed, and it has not been called in question by any philosopher of mathematics from Plato until the present. As regards logic, not even the logic of inexact concepts is an exception, since its concepts, e.g. of 'inexact concept', of 'inclusion-overlap' or the like, are of course themselves exact. Since all concepts which constitute the network of a mathematical theory — all genera and species — are exact we may characterize the concepts of mathematics as purely exact.

One might object that perhaps the exactness of mathematics does not express its essence; that it may be a mere historical accident which will sooner or later reveal itself as such, just as the concern of mathematics with quantity revealed itself as a historical accident with the rise of non-quantitative mathematical theories. The objection is verbal. If anything true has been said about mathematics as the science of quantity it is still true for those theories which fall under the now abandoned definition. Similarly if anything said about 'exact mathematics' is true it will remain true, even if or when a wider notion including inexact mathematics is generally adopted. In any case the field of exact mathematics is, and will remain, wide enough to warrant every attention given to it.

Perceptual characteristics are concepts which are instantiated in perception. They are, or fall under, various categories such as 'being a sense-impression', 'being a physical object', 'being a colour', 'being the result of a physical measurement', 'being a collection of physical objects', etc. etc. Questions of the analysis of these categories, and arguments for or against employing some of them rather than others form the staple of much metaphysical and 'antimetaphysical' philosophy. These are not our present concern. Alone important for us is to recognize that the species of all these categories are inexact concepts, governed by rules of reference which admit of positive, negative or neutral candidates.

One need not argue this point in general. In the case of those perceptual characteristics which tend to be confused with purely exact concepts, a brief remark is called for. Consider the bracketed pattern [//]. It is an instance of 'a pair of strokes' and more generally, of 'a pair of physical objects'. There is nothing ambiguous about calling the pattern a couple and not, say, a triple. This is indeed so. But the concept 'a couple of physical objects' is nevertheless inexact because it admits not only of positive candidates — of which, we hope, the printer has produced one — but also of neutral ones. An exact concept on the other hand, e.g. 'having the number 2', as used

in pure arithmetic, has no neutral candidates. We must distinguish the inexact concept from the exact concept since although both have positive candidates, only the former has neutral ones, not also the latter. The confusion of the two concepts does not matter in practice. But it is important in theory and, as we shall soon see, also for an understanding of the very practice in which it does not matter.

There seems to be no reason to warn anyone against a similar confusion of 'geometrical triangle' and 'physical triangle'. If there were, the warning would have to be given in a precisely similar way. It has been implicit in the example involving geometrically and perceptually straight lines by means of which the function of conventions for dealing with neutral candidates of inexact concepts was illustrated.

If all species of perceptual categories are inexact, what about the categories themselves? Can there be neutral candidates for 'being coloured', 'being of some shape or other'? If, as e.g. Brentano argued, there is a sharp distinction between perceptual and other data, and if all perceptions have the same general characteristics, some perceptual categories are exact. If, on the other hand, we take Rimbaud's poem on the vowels[4] as expressing perceptual judgments about the colours of sounds, we might feel inclined to argue that all perceptual categories are inexact. One might try to use the methods of philosophico-linguistic analysis or of phenomenological description. But I suspect that in this case, as in many others, the methods would lead to a definitional decree, disguised as a discovery of a hidden linguistic usage or a hidden feature of experience. For our purpose we need neither definition nor discovery — genuine or spurious — since we can leave the question open by assuming that perceptual characteristics are inexact concepts or, if exact, have only inexact species.

It is unlikely, though not impossible, that we should find the inexactness of perceptual characteristics regarded as, again, mere historical accident, and find arguments advanced to the effect that description of perceptual data in terms of exact concepts is in fact the business of the theoretical physicist. This, as I hope will become clearer in the course of this study, is probably a mistake induced by various *façons de parler* which suggest that the physicist 'applies' exact concepts in the same way as he and his mathematically untrained assistants 'apply' inexact concepts to observations. A length of π centimetres is not read off from any scale; and when one assumes that all real numbers can be used in formulating the results of scale-reading, there is no difference between 1 and π regarded as real

[4] J. N. A. Rimbaud, 'Voyelles', *Œuvres Complètes*, Paris, 1946.

numbers in the sense of classical mathematics or of some logically more self-conscious reconstruction of it.

Even if we admit, for the sake of the argument, that there are perceptual characteristics which are exact and have exact species we are still left with a wide field of perceptual characteristics which are either inexact or, if exact, have inexact species. In considering the relation of mathematics to perception we are thus concerned with perceptual characteristics belonging to this field and with the purely exact concepts of mathematics.

Now since (or, to be for the last time over-cautious, in so far as) all concepts of pure mathematics are purely exact and all perceptual characteristics are either inexact or, if exact, have only inexact species, it follows immediately from the general argument of the preceding section that perceptual and mathematical concepts are unconnected, i.e. that for any perceptual concept P and any mathematical concept A — neither $A < P$ nor $P < A$.

All this is naturally susceptible of extension from concepts to propositions and objects. Two propositions can be defined as unconnected if and only if the concepts assigned or refused in stating them are unconnected. Perceptual and mathematical propositions are thus unconnected. Again, since to be a perceptual object is to have only perceptual characteristics, no perceptual object can be also a mathematical one. What has been said about mathematical concepts, propositions and objects on the one hand, and perceptual on the other, can be briefly summarized as the thesis that mathematics is disconnected from perception.

(5) *Mathematical existence-propositions.* A common way of trying to distinguish between mathematics and logic starts from the apparent difference between two types of mathematical propositions. Consider for example (i) the proposition that if the postulates of Euclidean geometry are true the theorem of Pythagoras is also true and (ii) the proposition that if the points C and D ($C \neq D$) are in the line AB then A is in the line CD. The first proposition, it is said, merely expresses in the specific terms of a particular theory a principle of a system of logic in which the theory is embedded. We could express the same logical principle in terms of the concepts of some other theory or in terms of unspecified concepts. The second proposition on the other hand expresses a principle, not of logic but of a distinct theory embedded in this logic. It is, as it is often put, not a principle of logic but an implicit definition presupposing this logic.

The difficulty here is to distinguish *in general* between propositions embedded in a logic and principles constituting an embedding logic.

For example, is the principle of excluded middle of the first or second type? The answer seems to depend on one's point of view. Only if there is a minimal logic to which every thinker is committed can an absolute distinction between embedding and embedded principles be drawn. (There are good reasons for regarding the logic of inexact concepts as the minimal logic. I do not pursue this point.)[5]

Other attempts to distinguish between mathematics and logic seem equally unpromising. The reason lies to some extent in the logicist attempts to deduce mathematics from logic placing existential propositions — e.g. the axiom of infinity — within logic, without ever defining the term 'logic' in any general way. If we assume that the propositions of logic are non-existential, then since every mathematical theory contains existential propositions, we can distinguish between logic and mathematics. But we must in any case consider the logical status of mathematical existence-propositions.

Here we must be careful not to define 'proposition' so narrowly that the definition leaves no room for mathematical existence-theorems. Thus if we were to define propositions as being either statements of logical relations or statements of empirical fact, we may have to relegate existence-theorems to the region of pseudo-propositions or meaningless sentences; which in practice amounts to abandoning hope of understanding their logical status and function.

I shall take for granted the difference between concepts and propositions which shows itself in the fact that the former but not the latter are capable of being assigned to objects. A proposition can then be characterized as having at least one concept among its constituents and as being capable of standing in the relation of compatibility or incompatibility with other propositions. Two propositions are incompatible if their conjunction violates the rules which govern their constituent concepts and other signs — independently of whether the separate propositions violate or conform to these rules. (If P/Q then the assignments of P and Q to the same object are incompatible propositions. But the compatibility or incompatibility of propositions does not always depend only on concept-governing rules; in the case, e.g., of the incompatibility in *Principia Mathematica* of $(\exists x)\ P(x)$ with $(x) \sim P(x)$ it depends on that system's rules of quantification.)

If we adopt this wide definition of the term we can divide all propositions into three mutually exclusive and jointly exhaustive classes, namely (i) logical propositions in the making of which we assert or deny the incidence of a logical relation between concepts

[5] See *Conceptual Thinking*, Cambridge, 1955; New York (Dover Publ.), 1959, especially ch. VIII.

or propositions; (ii) rules which are capable of being adopted and, if adopted, conformed to or violated; (iii) factual propositions which are neither logical propositions nor rules. If we are concerned with keeping the definition of technical terms in line with dominant language habits — a concern always useful till it becomes obsessive — we might be encouraged by the fact that rules of behaviour are often said to be 'proposed'.

It will be observed, and it is worth emphasizing, that a proposition in our sense of the term is not necessarily true-or-false and not necessarily capable of being believed. A rule is neither. Again a factual proposition is not necessarily empirical, in any sense of this term of many senses. The proposition that man has an immortal soul is not empirical but, being neither a rule nor a logical proposition, factual.

To state an existential proposition is to assert or deny of a certai concept that objects, whether known or unknown, are (or are not) available to which it is correctly applicable. To state that there are chairs or mathematical points is, in other words, to assert of the concepts 'chair' or 'mathematical point' that they are not empty. To deny the existence of chairs or mathematical points is to assert that the concepts 'chair' or 'mathematical point' are empty.

An existential proposition is clearly not a rule. It does not regulate any activity and cannot be adopted, conformed to or violated — as can rules of a game or the rules governing the use of signs as concepts, etc. It is also not a logical proposition: by the stating of it one does not assert or deny a logical relation. It is in particular not a proposition about the internal consistency of a concept or about its consistency with other concepts. This is quite obvious in the case of 'There exists at least one chair' and in the case of other existential propositions stating the non-emptiness of perceptual characteristics.

It is almost equally obvious in the case of 'There exists at least one mathematical point'. Otherwise it would be possible to eliminate the existence-postulates from the postulates of any consistent mathematical theory without thereby eliminating any of the consequences of the original postulates. It would thus be impossible to prove about any mathematical theory the independence of any of its existential postulate of the others. And this is clearly not so.

The nature of mathematical existence propositions can, I believe, be more clearly exhibited in terms of a general distinction between two types of proposition which I shall call respectively unique and non-unique. A proposition, say p, is unique if its incompatibility with some other proposition, say q, implies that one of the two

propositions is incorrect. A unique proposition, if correct, is correct in every context and, if incorrect, incorrect in every context. Its correctness or incorrectness is, as it were, intrinsic and independent of the proposition's logical surroundings.

Examples of unique propositions are statements of (alleged) laws of nature such as that all copper conducts electricity, statements of the emptiness or non-emptiness of empirical concepts such as 'chair', 'electric field', theological statements such as 'God exists', and of course all propositions with which these are incompatible. Again some logical propositions are unique, such as the proposition that p and q are compatible — in the sense that their conjunction does not violate the rules governing their constituents. On the other hand, the incompatibility of two rules, e.g. 'to smoke before breakfast' and 'not to smoke before breakfast' does not imply the incorrectness of one of them — rules being neither correct nor incorrect.

Now, mathematical existence statements are — unlike those empirical and theological ones which also assert the availability or otherwise of objects — non-unique. Consider, for example, the postulates of a linear vector algebra V for a vector space whose dimensions have not been determined. Consider further the existence — proposition, say, V_1 that vectors with four linearly independent components exist and, say, V_2 that such vectors do not exist. The propositions V_1 and V_2 are incompatible, but certainly not unique. The same is true of the two existence propositions that integers exist which are members of an actually infinite sequence all of whose subsets exist and (for good measure) can be well ordered; and that such integers do not exist.

Kant and, after him, Leonard Nelson[6] rightly emphasized that every mathematical theory is existential in the sense of containing not only logical propositions expressing principles of the logic in which the theory is embedded and implicit definitions, but also existential propositions. They held, however, that mathematical existence propositions are unique. Their arguments basing the unique character of arithmetic and Euclidean geometry on a special intuition have often been criticized. The point of the foregoing discussion has been mainly to show that existential propositions may, but need not, be unique; and that mathematical existence propositions are not unique.

(6) *The nature of applied mathematics.* The theories of pure mathematics are — as a consequence of the purely exact character of

[6] L. Nelson, *Bemerkungen über die Nicht-Euclidische Geometrie, etc.*, Göttingen, 1905-06.

mathematical and the inexact character of perceptual concepts – disconnected from perception and non-uniquely existential. What then is it to 'apply' pure mathematics to perceptual data? The question can be discussed, without loss of generality, in terms of simple examples. Consider the propositions:

(1) $1+1=2$.
(2) One apple and one apple makes two apples.

Proposition (1) is a proposition of pure mathematics which can be transcribed in many different ways, i.e. regarded as a proposition of various arithmetical theories which need not be consistent with each other – differing for example in their postulates concerning the structure of the sequence of integers. Yet each of these transcriptions involves purely exact concepts only. Thus '1' and '2' may in Fregean fashion be transcribed as exact concepts characterizing unit-classes, or in the fashion of Hilbert as exact concepts characterizing strokes on paper (which strokes, however, are to be considered, not as positive instances of inexact concepts which do, but of exact concepts which do not admit of neutral candidates). Either transcription leaves room for further differences in the rules governing the exact concepts. The same is true of the transcription of mathematical addition which Frege transcribes substantially as the pure exact relation of logical sum and Hilbert as an exact concept characteristic of the juxtaposition of strokes (conceived as instances of an exact concept).

Proposition (1), however transcribed, thus involves only purely exact concepts and is disconnected from perception. It implies, at least according to Frege and Hilbert, that the concepts involved are not empty and is thus existential. In view of the possibility of different, and mutually incompatible, transcriptions it is non-uniquely existential – its correctness depending only on its logical surroundings.

Proposition (2) may be transcribed in two different ways. It may first of all be transcribed as being also purely exact. This the logicist does by regarding (2) as a substitution instance of (1) – a substitution instance formed by substituting two distinct unit-classes of apples for the distinct, unspecified unit-classes in (1) and their logical sum for the unspecified logical sum in (1). [The transition is from '$(x)(y)\ ((x\in 1)\cap(y\in 1)\cap(x\neq y))\equiv((x\cup y)\in 2))$' to '$((x_0\in 1)\cap(y_0\in 1)\cap(x_0\neq y_0))\equiv((x_0\cup y_0)\in 2))$'.] In the formalist system (2) is transcribed as describing the same structure as (1) – apples and their juxtaposition taking the place of strokes and their juxtaposition and being tacitly considered as instances of exact concepts. We shall refer to

any transcription of (2) which turns it into an exact proposition after the described fashion as (2*a*).

Proposition (2), however, is — or must in some contexts be regarded as being — a statement of the result of the physical addition of apples or other physical objects. The concepts 'physical unit', 'physical addition', 'physical couple' are all inexact concepts, and the proposition of which they are constituents is an assignment of inexact concepts to perceptual objects, and as such inexact (in the sense of section 3 and 4). It is — unlike (1) and (2*a*) — capable of being confirmed or disconfirmed by experiment and observation. I shall refer to any transcription of (2) which exhibits the inexact character of its concepts and their assignment to perceptual objects as proposition (2*b*). Whereas (1) and (2*a*) are both mathematical propositions, (2*b*) is an empirical law of nature — a proposition about the physical behaviour of physical objects.[7]

More impressive examples could be given. The place of (1) could be taken by the pure geometry of Hilbert space, the place of (2*a*) by a substitution-instance of a theorem of this geometry in terms of the empirical concepts of Quantum Mechanics treated *as if* they were exact, the place of (2*b*) by Quantum-Mechanics as an empirical theory. Here again (2*a*) is of the same nature as (1) firstly since it is correct if, and only if, (1) is correct; and secondly, since empirical confirmation or disconfirmation though relevant to (2*b*) is not relevant to (2*a*).

The philosophical problem of the nature of applied mathematics is the relation between, on the one hand, propositions of type (1) which as propositions of pure mathematics are disconnected from perception, and, on the other hand, propositions of type (2*b*) which are, or at least logically imply, perceptual propositions. To consider the relation between (1) and (2*a*) is not even to touch the problem of what is involved in the application of pure mathematics to experience. To give an account of the relation between (1) and (2*b*) in terms of that between (1) and (2*a*) would be to make the mistake of identifying purely exact concepts, their objects, and propositions in which the former are assigned to the latter with perceptual concepts, objects and propositions.

Many of those who have 'applied' existing mathematical theories to perception or who have constructed new mathematical theories with this in view have expressed the relation between (1) and (2*b*) by saying that (1) is an *idealization* of (2*b*) or by using other expressions which clearly show their awareness of the mistake committed in confusing an exact statement (2*a*) with an inexact (2*b*) one.

[7] See *Conceptual Thinking*, ch. XI.

(Among them are Felix Klein, and von Neumann.[8]) Such remarks have a Platonic ring. Indeed Plato distinguishes sharply between, e.g. one physical apple and the Form of Oneness. He did not regard a physical thing as an instance of the Form of Oneness nor did he regard the network of logical relations involving the inexact concept 'physical unit' as isomorphous with the network of logical relations invoiving the exact Form 'Oneness'. (His term μέθεξις excludes both instantiation and isomorphism.) But, apart from the other assumptions of Plato's metaphysics, he regarded pure mathematics not only as disconnected from perception and existential, but also as unique.

What is involved in 'applying' pure mathematics, say proposition (1), to experience, say (2*b*), or — less misleadingly put — in idealizing (2*b*) by means of (1) can be understood in terms of the preceding discussion:

(*a*) A proposition of pure mathematics such as (1) and the corresponding perceptual proposition such as (2*b*) are disconnected;
(*b*) for certain purposes of the physicist, grocer, etc. — the purely exact concepts and objects of (1) and the perceptual concepts and objects of (2*a*) are used interchangeably.

If we 'apply' a whole mathematical theory to perceptual data, some of the exact concepts of the theory may be left unpaired with inexact perceptual concepts. The success of the interchange depends on the mathematical theory, on the perceptual world and, of course, on the purposes which the interchange is intended to serve.

(7) *Comparison with other views.* In considering intuitionism, logicism and formalism I shall be concerned with their philosophical points of view and not with such mathematical achievements of theirs as have been inspired by their philosophy. I shall, moreover, be concerned mainly with one feature which these, otherwise very different, philosophical theories have in common — their slurring over the difference between mathematical and perceptual concepts together with the consequent disconnectedness of mathematics from perception.

Intuitionism, as a philosophy of mathematics, is the view, that all or some propositions of mathematics describe, in terms of exact concepts, an intersubjective pure intuition or perception which is

[8] F. Klein, *Elementare Mathematik vom höheren Standpunkte aus*, Berlin, 1924-28, vol. II, part 3, ch. II; von Neumann and Morgenstern, *Theory of Games and Economic Behavior*, 2nd edition, Princeton, 1947, p. 21.

not to be confused with sense-perception. This intuition is alleged to explain not only the exactness and existential character of mathematical theories but also their uniqueness. The scope of this alleged intuition has shrunk greatly since Kant's exposition of it — not as a result of philosophical argument, but as a result of the development of mathematics. It became clear that a decision between alternative theories could not be made by a *direct* appeal to sense-perception or intuition. Kant argued from the uniqueness of Euclidean geometry to an underlying intuition which was in turn supposed to explain the uniqueness of Euclidean geometry. Such an argument seems either circular if the intuition is in question or superfluous if it is not. Modern intuitionists restrict the scope of intuition to the alleged substratum of arithmetic deprived of transfinite postulates and methods of inference — the term 'transfinite' being not precisely demarcated, as is witnessed by different, more or less radical variants of this philosophy.

So long as the relation between intuition and ordinary perception remains open, the nature of the former is left in the dark. But in giving an account of the 'application' of pure mathematics to perception, much, if not everything, will depend on this relation. Modern intuitionism is, so far as I know, not concerned with developing a philosophy of applied mathematics. Kant, however, has dealt with this very question. According to him pure intuition is the invariant structure of sense-perception. Thus 'One apple and one apple makes two apples' is necessarily true because '$1+1=2$' is. The former is considered as being either a substitution-instance of, or as isomorphous with, the latter — a view which is incompatible with the disconnectedness of mathematics from perception.

Formalism, as a philosophy of mathematics, is the view that all or some propositions of pure mathematics (or pure meta-mathematics) are propositions describing perceptual objects of a very simple structure such as strokes. By treating, as has been pointed out earlier, perceptual objects which are positive candidates for inexact concepts — e.g. 'physical stroke' — as positive candidates for exact concepts, formalism also conflates exact and inexact concepts.

It is this conflation which seems to have been the source of the view that the difference between a mathematical and an empirical theory lies simply in the fact that the latter can be arrived at by adjoining reference rules to the former; thus determining the objects which the mathematical theory leaves unspecified. It must be noted, however, that although most formalists would subscribe to the view of pure mathematics here criticized their views on applied mathematics are not so uniform. Although Curry, for example, subscribes to the

view of pure mathematics here criticized, his views on the nature of its application are rather similar to the one we have been defending.[9]

As regards the original logicism of Frege and Russell — the theory which asserts the deducibility of mathematics from logic — it has often been pointed out that it suffers from obscurity as a result of its failure to define logic in any general way, and because of its tendency to call 'logical' any proposition which, at the time of the construction of a particular system, seems needed to satisfy the logicist programme. Here I should like to show briefly that the original logicist philosophy of mathematics is guilty of the same conflation of exact and inexact concepts as are its formalist opponents.

In Frege this takes the simple form of regarding *all* concepts as exact. Inexact concepts — and thus perceptual characteristics — are 'concept-like formations' with regard to which 'it is impossible to formulate exact laws' (loc. cit.[3]). The problem of the 'application' of exact mathematical concepts to perceptual objects such as physical units, couples, triplets, etc., is not even posed. To ignore it was to fall back on the view that 'One apple and one apple makes two apples' is a substitution-instance of '$1+1=2$' and that similarly, every law of theoretical physics is a substitution-instance of a proposition of pure mathematics and, further, that being a substitution instance of an analytic proposition — it is analytic.

The failure of the original logicism to deduce mathematics from 'logic' in a clear sense of this term has led to what might be called pragmatist logicism, which denies the possibility of a logical distinction not only between logical and mathematical propositions but also between logico-mathematical and empirical propositions. According to this view, whose most convincing exponent is Quine,[10] there is no logical distinction between the propositions of logic, mathematics and the empirical sciences. The only difference between them is the pragmatic one, that we are on the whole more reluctant to drop logical propositions than mathematical from the total body of our knowledge; and more reluctant to drop mathematical propositions than empirical. Yet logical pragmatism is mistaken, if we can make a logical distinction between exact and inexact concepts and if in terms of this distinction we can also distinguish between mathematical and perceptual propositions. I have tried to show that we can do this.

(*9*) *Conclusion.* In this paper I have tried to establish two theses:

[9] H. B. Curry, *Outlines of a Formalist Philosophy of Mathematics*, Amsterdam, 1951, ch. XI.

[10] W. V. Quine, 'Two Dogmas of Empiricism' in *From a Logical Point of View*, Harvard U.P., 1953.

(i) the theories of pure mathematics are — in a precise sense of the terms — disconnected from perception, existential and non-unique. (ii) The application of a mathematical theory to perception consists in the interchange of purely exact with inexact concepts and objects in the service of certain purposes. Both theses are incompatible with the views represented by two broad streams in the philosophy of mathematics, the logicist starting from Leibniz and the intuitionist and formalist starting from Kant.

FROM: *HEGEL AND HIS TIMES.* LECTURES ON THE ORIGIN AND DEVELOPMENT, NATURE AND VALUE OF THE HEGELIAN PHILOSOPHY

By R. Haym

INTRODUCTION

Rudolf Haym is known and esteemed as the author of the *Romantische Schule* and as the founder of the *Preussische Jahrbücher*. Haym is on the other hand more or less unknown and unrecognized as a philosophical critic who was as penetrating as he was brilliant and courageous. On the contrary, the Marxist-inspired 'Introduction' (by W. Harich) to the new edition of Haym's *Herder*, for example, passes the following doctrinaire judgment on Haym's brilliant critique of Hegel: 'He is incapable of appreciating Hegel's phenomenal anticipatory insight into the contradictory character of bourgeois society.'[1] Just what there is in this allegedly 'phenomenal anticipatory insight of Hegel's' is another question. It is answered in the following unaltered excerpts from the 15th and 18th 'Lectures' of Haym's on *Hegel and His Times* (Berlin, 1857) with such telling effect that it seemed urgently necessary to rescue these fragments – 'Prussia and the Philosophy of Law' and the 'Conclusion' which discusses Hegel's attitude towards the English Reform Bill – from obscurity.

Both fragments combine a philosophical with a political-historical assessment of the Hegelian constructions, and they are for this very reason completely appropriate to their subject. They can contribute much towards exploding the legend of the 'glorious gold of profound sociological realism' which is supposed to lie hidden in the sands of the whole Hegelian system. But more than this: criticism of Hegel in general, and not merely of his political philosophy, is a task which the twentieth century can afford to shirk even less than the nineteenth century, but which it nevertheless continually shirks.

This situation is conditioned by an irony in the political world situation of the present which lies in the fact that both the communist and non-communist camps hold the Hegelian philosophy in high, far too high, esteem – the former even going so far as honouring it as an element in its philosophy of the state. (The same applies to materialism which, as behaviourism for example, is certainly not unknown to the non-communist world.)

[1] Berlin, 1954, Aufbau-Verlag, 2 vols., p. xxix.

But the need of political systems to legitimize themselves and philosophy's interest in truth do not coincide today any more than they ever did before and philosophy cannot, therefore, avoid calling this conflict unmistakably by its proper name. Otherwise it renounces itself — and there are illustrations enough of this in the development of philosophy in the twentieth century.

At the beginning of the nineteenth century plain-spoken critics of Hegel had to pay for their attitude with isolation, as was for example the fate of Schopenhauer and of Fries.[2] In the twentieth century things have gone much further and the solitary confinement of the philosopher in his study has been replaced by muzzling or 'liquidation' — penalties which it is possible to escape only in especially favourable circumstances.

To talk under such conditions of progress in the institutional safeguarding of freedom of thought is, it is true, in many respects a rewarding undertaking for contemporary dialecticizing — for the rest, however, it is a distortion of history.

Haym's *Hegel and His Times* is the very opposite of this: it is a document of historical-political and philosophical truthfulness.

JULIUS KRAFT

I. PRUSSIA AND THE PHILOSOPHY OF LAW

At a time when unimaginativeness as such takes the liberty of mocking at the ideology of philosophers, it is no thankful job to arraign a philosophical system. Yet by doing so, we do no more than pay homage to the power of ideas. For it was, in truth, not through the ill-will of the mighty, nor through governmental measures, that philosophy came to lose its influence. It had to acquiesce in its own deposition; it alone was able to open the doors to elements hostile to itself. One step towards this self-destruction — only a single step, it is true, but a very big one — is the Hegelian philosophy of law. It is the latter which is mainly responsible for the fact that the highest science has been reduced to an object of contempt and has become well-nigh impotent in the face of the forces of reality!

We arraign, however, by understanding. Hegel came as a stranger to Prussia. He had sought for a reality in life corresponding to his general conception since attaining manhood. He had made the best of the worst of realities; he had found refuge from their defects in the elaboration of his ideal world, and had found a complement thereof in the fabricated reality of his concepts. The deception

[2] Fries's masterly, comprehensive critique of Hegel in his *Geschichte der Philosophie*, Halle, 1840, 2 vols., pp. 671 et seqq., has to this day remained almost unknown.

which lay in this latter beginning was able to survive for as long as his creative powers and his imagination were still relatively fresh, and for as long as in his own world, the world of theory, there was work and organizing to be done. This world, however, was now finished. The man's soberness and sense of reality were as bound to compel him beyond the whole philosophical edifice and into living reality as within his theory they had driven him out of logic into the philosophy of nature. It no longer sufficed for him that life existing in the present and life constructed in concepts should partially and alternately supplement each other: if he were not to fall out with the one or the other, it was necessary for him *to rediscover his entire system in reality*. As reality *in abstracto* was supposed to be identical with the concept, there was bound to make itself felt in the end the need for *one*, one particular and concrete reality to demonstrate and confirm his own belief in his system. This need was met by the Prussian state. However this state might have been constituted, it was better by far than anything Hegel had seen in the way of practical realities. Here there was more state and more statelike being than in Bavaria or Württemberg. Here there was more reason and more freedom than under Napoleon or Montglas. The ordered running of the Prussian administration, the regularity of the bureaucratic machinery, the liberal foundations of the proposed constitution impressed the philosopher. He saw science cherished and protected with munificence; he saw himself as the spearhead of the spirit of enlightenment — which was as yet a long way from being theoretically disclaimed.

It is true that the spirit of reaction was announcing itself in no uncertain terms. It was during the first year of Hegel's activity in Berlin that the unhappy system of persecution began the memories of which still bring shame and bitterness. It was Prussia herself who took the lead in pursuing those measures of the pettiest tyrant style which were the precursors of the resolutions of Karlsbad and a prelude to placing the whole of Germany under police supervision. In all this there was no political understanding, no order, no honour, no respect for freedom and learning. Many realized then for the first time what Germany had to expect soon thereafter from Prussia. A statesman like von Humboldt found reason in this to break with the prevailing system. Scholars the like of Schleiermacher and Dahlmann protested against the affront put upon the German universities and their teaching staffs. But Hegel was made of different stuff. For Hegel, strange as it may sound, this very activity of the Prussian government was further proof that he was living in a state where genuine freedom prevailed, in a state *par excellence*, in an

exemplary and ideal state. It was not so much with his views as with his sympathies and antipathies that on this point the government was absolutely at one. That which inspired the government, by reason of its bad conscience, with fear inspired him, in keeping with his entire way of being and thinking, with repugnance. The play with words and fire at the Wartburg, the puerile attempts to free Germany by the dagger from her enemies offended and outraged his earnest tendency to abide by objective order. In his heart of hearts he loathed the sentimental romanticism of Burschenschaft activities, loathed no less the vague wranglings of the newspapers and of the market. He had once taken the field against the hollowness of philosophical romanticism, just as he had fought against the shallowness of the philosophy of common sense. He had set up his logic against the appeal to feeling, his absolute metaphysics against the metaphysics of subjectivism. In the attitude that a man like Fries now adopted towards the political questions of the day he perceived a combination of everything he deemed scientifically false and morally perverted. In the eccentricities of the youth he saw a manifestation of the natural practical consequences of a shallow philosophy of feeling and a superficial philosophy of understanding. His opposition towards the latter heightened itself into bitterness towards the former. It was with similar feelings of bitterness that the statesmen of Karlsbad had voted; and it was with such feelings that their decisions had been executed by Kamptz and Tschoppe. By imprisoning and interrogating the singers and speakers of the Wartburg and the students and gymnasts, the state, according to Hegel, was merely performing the function proper to it, while the police was merely saving and preserving the right of reason from the arrogance of subjective opinion and desire.

The *Philosophy of Law*, as already mentioned, most clearly reflects this turn of events or, rather, this fate of the Hegelian doctrine, the transformation of an absolute idealism into a Restorationist idealism. The *preface* of this book is justifiably notorious. For in the first place it is nothing other than a scientifically formulated vindication of the Karlsbad police system and the persecution of demagogues. In terms whose irritability and heavy calibre recall the attacks made at the same time by Stein against men and doctrines Stein did not know, the preface assails all those who took the liberty of holding personal views on the state's rationality and of transforming these views into desires and demands. As the representative of these theorizing and postulating politicians it selects a man who should have been rendered immune from all attacks on the part of philosophy, not merely by his character, but rather and unqualifiedly by

the circumstance that he was a person already outlawed by the police. Not enough, however, to heap on the Friesian doctrine all the reproaches which Hegel was otherwise wont to cast in separate attacks at the romantics and at the representatives of the Enlightenment, at the Jacobinic and Kantian movements; not enough to brand Fries the 'commander-in-chief' of the prevailing 'shallowness' and the 'pettifogger of arbitrariness' and in this way to draw a caricature of his doctrine: in addition to all this, philosophy makes common cause with the police and passes from attack and accusation to personal denunciation and to incitement of the public authorities. It is not so much Fries the philosopher as Fries the speaker at the Wartburg with which our preface is concerned; it is expressly approved that 'the governments have at last directed their attention towards such philosophizing', and it is to be hoped, so the preface adds, that office and title will not become a talisman for principles 'which lead as much to the destruction of inner morality and the righteous conscience as to the destruction of public order and the laws of the state'. Indeed, proof enough of how rapidly the venom of bureaucratic police views was then eating into people's minds: Hegel followed this first step by a second, letting indignity be succeeded by absurdity. The incident is familiar enough. A reviewer of the *Philosophy of Law* in the *Hallische Literaturzeitung* criticized the ignoble manner in which the work's preface treated 'the already humbled Fries'. Now Hegel in his turn called this a denunciation; now he found it intolerable 'that it should be possible for a Prussian official to be made suspect in a journal supported by the munificence of the Prussian government'; now he spoke of the dangers of too great a freedom of the press; now he demanded and received satisfaction from the minister of culture.

It is indeed difficult to find justification for even the first half of this procedure in Hegel's 'objective cast of mind', since in the second half zeal for the matter itself is identified all too crudely with zeal for his own person. What is worse, however, is that the guilt from which one wishes to save the philosopher falls back all the more certainly on his philosophy. For it is true that these accusations and this disdainful criticism did not spring from personal motives; they had their real roots in the ethical and — in the final instance — general philosophical view of the author of the *Philosophy of Law*. Supporting this critique of Friesianism, opposed to the policy of progress and demands, our preface contains the classical pronouncement of the spirit of Restoration, *the absolute formula of political conservatism, quietism and optimism*. 'What is rational', Hegel, in his anti-demagogic and anti-subjectivist zeal, has printed in capitals

as the inscription of his *Doctrine of the State* and of his *System* — 'what is rational is real; and what is real is rational'. Philosophy, he expounds further, is the plumbing of the rational, is for this very reason the comprehension of the present and the real, not the setting up of a transcendent and non-being which exists nowhere other than in the 'error of a one-sided, empty reasoning'. The purpose of the philosophy of law cannot be to construct a state as it should be, but rather to comprehend the state as it is. This means, means it clearly and unmistakably: that demand for reality which in metaphysics elevates abstractions to 'concrete concepts', which twenty years prior to this had made the journalist Hegel rebellious against the unsteady reality of the German Reich, which then induced him to set up a Platonizing metaphysics of the state — this selfsame demand, to achieve satisfaction and for the sake of appeasement, makes do with what in ordinary language people call the real. It is the comprehension of the practical reality of the state *such as exists in 1821 in Prussia* with which Hegel charges ethics, just as Bacon charged the philosophy of nature with the comprehension of sensuous nature. Just as the latter was concerned not with rambling among abstract ideas, but with the purposeful and true interpretation of nature, the former is concerned, not with the setting up of ethical ideas and postulates, but with the resigned and faithful interpretation of the existing order of the state. This existing state, the existing customs and laws, 'which in times of old were still regarded with respect and awe' — these are for Hegel the sovereign object of philosophical ethics. Kant had once taught this science to fly higher; now, returning from heaven to earth, it bears the mark of a more petty and fearful time. Face to face with reality, temporal-human reality, idealism lays down its arms, believing itself able to maintain its honour and its name only in subordination to this reality. All moral élan has departed from life and, for this very reason, from philosophy too. 'Absolute idealism' has again become reconciled with the *quidditates* and *entitates* against which Bacon's argumentation was rightly directed; for Hegel has helped the latter to acquire artificial reality and content. The ethical ideas, however, which have their roots only in strength of will and energy of mind — these are for him the idols which must be cast down and exchanged for the reality of ethical institutions such as exist in the present. In this way the poles of the hitherto existing idealism become reversed. There had existed since Kant an ethical, but no longer a speculative, metaphysics; now there exists a speculative, but no ethical, metaphysics. Once again the practical spirit is weak and feeble, the intellectual spirit strong and eager to believe. With the proud word 'comprehend' — proud because it is backed by

the entire profundity and prolificness of the new logic – this intellectualism conceals its submissiveness towards the existing, practical realities. Its attitude towards these realities resembles that of the Greeks towards the Romans, when, after having been conquered by the Romans' weapons, the Greeks became through their spirit and culture the conquerors of their conquerors. It deludes itself about this submission with the honour of peace and the ideological appearance of equal status; indeed, it dares to call the abdication by the name of freedom. 'What lies between reason as self-conscious spirit and reason as present reality, what separates the former reason from the latter and prevents it from finding satisfaction in the latter, is', says Hegel, 'the fetter of some abstraction or other that has not been freed to become a concept.' The highest that philosophy must achieve is the 'conciliation with reality', the 'warm peace with it which knowledge brings about'.

It lies in the nature of things, so it appears to me, that a government standing on the slippery slope of reaction, and yet vain of its protection of science, should have accepted the hand so freely offered it by philosophy. Hegel fully deserved, as far as I see, the testimonial which Altenstein wrote him for his *Philosophy of Law*, a testimonial which, as it were, declared him to be the official Prussian philosopher of the Restoration and of the state. As far as I see, all that the Hobbes and Filmers, the Hallers and Stahls ever taught is a relatively liberal doctrine compared with that notorious pronouncement concerning the rationality of the real as encountered in the Hegelian preface. The theory of the divine right of kings and the theory of the *obedientia absoluta* are innocent and innocuous compared with the terrible doctrine which *sanctifies the existing because it exists.* I am aware that it is considered narrow-minded and mistaken to accept that dictum as it stands and as it is construed throughout the entire text of the preface. Hegel himself in fact is not only a long way from accepting all the consequences of his pronouncement: he has even endeavoured elsewhere to blunt the edge of it, to reduce it to an empty tautology, and to palliate his political conservatism by a logical distinction. Had he not done this, then we should have to do it for him. In reality the escape has its foundations in the system itself; unfortunately, however, this way of escape constitutes the basic flaw of the system. Empirical, apparent reality is not identical with true, rational reality. That is asserted in the *Logic*, and even more explicitly in the second edition of the *Encyclopaedia*. Whether asserted or not, however, the system as it stands is simply the product of the continuous, the truly hopeless confusion of this twofold conception of the real. This philosophy derives its power from heaven and

from earth. It is supported by the enthusiasm which the ideal calls forth in men, and upon the irresistibility and indispensability of the sensual and the real for mankind. In the *Logic* it elevates concepts to realities; and in the *Ethics* it gives realities rational value. From the spiritualism of its metaphysics, from the reality of pure concepts it escapes with one jump into the realism of its doctrine of the state; from the latter and the conceptuality of the real it leads one over in a trice into the Platonism of the *Logic*. 'What is real is rational; and what is rational is real.' This dictum epitomizes the entire duplicity of the system; it is the bridge which enables one to turn one's back, according to whim or need, either on empiricism or on idealism. This dictum, however, at the same time betrays where the main weight of the system lies at the present stage of its development. *It sinks down to the very bedrock of its metaphysics, to empirical reality.* After the hard work of the *Logic* in making the concepts concrete, it takes respite in the rewarding and pleasant business of idealizing comprehending existing, practical reality. In its logical part it is revolutionary; in its practical part, conservative. Thus, it was from the very beginning determined by the nature of the aesthetic intuition, from the energy of which the system had at an earlier date been created. That the absolute should be as much subject as substance, was a practically worthless determination. The absolute, however, was above all beautiful, self-contained totality; all the tops of subjectivity had, therefore, to be continually bent back into the ground of the substantial; 'ought' and striving was always a mere self-stultifying pretence. Thus it lay, as mentioned, in the nature of the aesthetic basic intuition; thus it now emerges much more plainly and unequivocally in that the aesthetic intuition well nigh solidifies into an optimistic one in the field of ethics. Everywhere the *Philosophy of Law* becomes the commentator of the system, divesting the latter at the same time of its liberalistic as well as ideological glory.

The Philosophy of Law — in the entirety of its structure and content. For the *Philosophy of Law* itself now proceeds to carry out with systematic thoroughness what is laid down in its preface. It would, as Gans puts it, be indeed a perfidious procedure, were critics to pick out that sentence in the preface merely in order to hold it up to passers-by as a warning not to enter the work itself. In the face of such a procedure, the zealous disciple was able to brag; the trump he played was that 'the entire work was constructed from the one metal of freedom'.

In the first place Hegel's words do justify the assertion. The system of law, as it is defined in one of the first paragraphs, is 'the realm of realized freedom'. Accordingly, it is nothing other than freedom that is dealt with throughout the entire book. The dialectic of this

concept determines the structure. Freedom in its 'immediate existence' results in the sphere of law. The demand that I should be free in myself, in the subjective, is met by the sphere of morality. Freedom appears at last in its most concrete and complete form, in 'virtuousness' organizing itself into the state. Virtuousness is the 'idea' of freedom, is 'the concept of freedom which has become the present world and the nature of self-consciousness'. Yet the word 'freedom' is a coin whose exchange rate is constantly fluctuating. One's mentality alone determines the sense of this word. The version given it by Hegel becomes the betrayer of the fundamental weakness of his philosophy.

What first strikes the eye is the preponderance of the theoretical over the practical or, more exactly, the absorption of the willing spirit by the thinking spirit. *Will and freedom evaporate with Hegel into thinking and knowing.* Will, according to the psychological definition which forms the foundation of his entire system of freedom, is 'a particular way of thinking'. Similar to the manner in which for Neo-Platonism all action is an imperfect cognition and practice merely the shadow of theory, will legitimates itself in absolute idealism only through its correspondence in character with, and its subordination to, cognizing reason. Will is a velleity of cognition and it is only in the latter that will has its goal and its truth. Will, it is held, 'is only as thinking intelligence true, free will'; freedom is consequently identical with rationality; the principle of law, of morality, and of virtuousness is 'the self-consciousness which by thinking comprehends itself as an essence'. The Hegelian doctrine is in clear opposition to the Kantian. Hegel rightly objects that the concept of will set up by the latter doctrine is empty, formal and devoid of content; on the other hand the will that he knows lacks the form of willing itself: it is, strictly speaking, a will which *will not.*

The consequences of this psychological foundation immediately become apparent everywhere. The most remarkable of these consequences is the reciprocal relation and the *quid pro quo* of the state and philosophy. *At the top absolute knowing and absolute virtuousness grow together, as do thinking and willing at the root.* Just as Prussia as the intelligence state *eo ipso* assumed to be the free state, just as the government of this state sought — probably more by instinct than by calculating sagacity — the alliance with absolute idealism, so the latter identified in a Platonic-Pythagorean manner the philosophical cosmos with the cosmos of the state; and Hegel set up a cartel relationship between the two powers, which perhaps finds a parallel only in similar phenomena in antiquity: in the politically

active philosophers of Greater Greece, in the Stoics of Rome, and in the philosophical dilettantism of Emperor Julian.

We have already considered the fact from other viewpoints. It was the consequence, already apparent in the early period of the system, of the twofold — now idealistic, now realistic — setting of the 'reality' striven for at all times and places that provided absolute idealism early on with a twofold stop, a twofold absolute. It would be necessary to read Hegel's Berlin lectures and the *Encyclopaedia* together with the *Philosophy of Law* quite thoughtlessly in order to overlook the quite obvious relationship. The system still has or, rather, has now more than ever, two tops corresponding to the two faces with which it peers here at conceptual reality, there at real reality. Thus religion and science are represented in the second and third, as they were in the first edition of the *Encyclopaedia*, as the culminating point of the philosophy of the spirit. The same conception is of course to be found where in personal lectures art and religion are made the special theme for consideration. Here the state appears everywhere as something limited and finite, and only religion, art, and science appear as the 'region of a higher, substantial truth', so that it is only from the religious content, as pure truth existing in and for itself, that 'moral life in empirical reality receives its sanction'. Yet, wherever the state becomes an independent theme, all the life-blood coursing in the arteries of this philosophy streams back in the reverse direction into this very same empirical reality. In the *Philosophy of Law*, and no less in the following *Lectures on the Philosophy of History*, we find ourselves at the very point where we were in the Jena *Natural Law* before the completion of the *Encyclopaedia*. Indeed, the state is much more strongly, emphatically, and persistently absolutized and apotheosized, now that the merely constructed state has been replaced by the existing Prussian state. *Atque haec est* — cries Hobbes, having represented the development of the state from the natural condition of the war of all against all — *atque haec est generatio magni Leviathani vel, ut dignius loquar, mortalis Dei.* One recalls these words of the English Restoration philosopher on reading the predications with which the Hegelian *Philosophy of Law* glorifies the state. There is not a single attribute of the absolute idea or of the spirit that knows itself in religion and speculation which is not likewise attributed to the state. The state is equivalent in value and character to philosophy or, rather, since it exists at the same time sensually-temporally, it is *something more.* It is 'absolute, unmoved end-in-itself'. It is called 'the real God'. It is referred to as the 'divine existing in and for itself' and its 'absolute authority and majesty' are spoken of. The demand is made that it

be worshipped as an earthly Godhead; and the assurance is given 'that all value man has, all spiritual reality, he has merely through the state'. To be sure, it is not forgotten amidst all this exuberance that this God is in fact a 'mortal' God, that he is but a copy of eternal reason, that he represents the divine idea 'as it is present upon earth'. It was just for the sake of this realism, however, that the young Hegel preferred the republican piety of the Romans and Greeks to the cosmopolitan-spiritualistic piety of the Christians. It is this very aspect of earthly and real existence which in truth contains even now the reason for the pathos with which the state is spoken about, a pathos which manifests itself all the more confidently, because it is not a merely imagined reality of the state that is spoken of, but because the picture of that state in which the philosopher is now permitted to live is being foisted into the general terms. And he is presently carried away to such an extent by this realistic pull that in the *Philosophy of Law* he well-nigh reverses the otherwise affirmed relationship between the state and religion. It is true that, like the state, religion also has absolute truth as its content, but merely in the form of intuition, feeling and idea. It can provide, therefore, only the foundation for the virtuousness representing itself in the state. The state is the higher and the more powerful; for it is 'divine will as *present* spirit developing into the real form and organization of the world'.

But with this precedence over religion, the state now comes all the more to be *on a par with speculation.* These two concepts are twin concepts; the identification of thinking and willing, of reason and freedom, combine with the ambiguity of the word 'reality' *to accord these concepts a completely equivalent treatment.* It is impossible to say definitely whether the state, or whether speculation forms the actual cupola of the system. Both concepts are constantly interchanging, reverting alternately into each other. One view of the matter is covertly substituted for the other, so that we are compelled — rather as when a coin revolves rapidly about its own axis — to see heads and tails at the same time, both tops within each other, and both absolutes coinciding. The trick is simple. It consists in transferring the distinctive character of the state to speculation, and the distinctive character of the latter to the former. We are sufficiently well aware of how, in order not to lose the realistic character of the state during the jump into the ideality of speculation, the essence of the latter is put into the possession of the 'truly' real, into the absolute knowing that provides itself with all objectivity. But the contrary holds true too. In order to transpose the concept of the state into that of speculation, the essence of the latter is postulated as being *reason*

and knowing. However, it was precisely in the state of Prussia, with its perpetual vacillating, its constant making, expounding and repealing of laws, where at this very moment men knew least of all either what they ought to do, or what they wanted to do. Yet this as little affected the arrogance of the Prussian statesmen as it did the conceit of the philosopher. It was the bustle of legislative activity, together with the favour bestowed upon his philosophizing, which taught the philosopher to characterize the state as being, as it were, philosophy that had become perceptible and corporeally exsiting. Thus the state according to the *Philosophy of Law* is 'the manifest, clear-to-itself, substantial will, *which thinks itself and knows itself*, and which carries out that which it knows, doing so in so far as it knows it'. Thus, owing to the common and like nature of knowing, the state and philosophy combine into a close alliance against and above religion. For the state, like philosophy, is what religion is not: *self-knowing* rationality; it 'knows what it wills', and, furthermore, it 'knows it in its generality as that which is thought'. In religion the absolute content remains at a standstill in the form of feeling and believing; in the principle of the state 'it belongs to the distinct thought'. It is firstly by its realistic, secondly by its intelligent nature that the state overtops religion. It is the one thing as well as the other which fuses it with speculation; for 'science too', it is held, 'has the same element of form as the state, it has the purpose of cognition, of knowing, that is to say, thought-of *objective* truth and rationality'.

But let us delve still deeper towards the roots of this invalidation of the practical spirit, and towards the consequent identification of the system of freedom with the system of knowledge! A gifted contemporary of Hegel, a man of action, who, it is true, was no adept at speculation but who for this knew all the better how to pass a judgment, likened the Hegelian logic to the hanging gardens of Babylon; for in it abstract concepts were intertwined artificially into arabesques; yet these concepts were alas devoid of life and of roots. It is the same with Hegel's practical philosophy as it is with his metaphysics. Even where he persuades himself that he is at his furthest and his deepest in the real, he is merely penetrating the latter's surface. His practical concepts, too, have the withered appearance of plants whose roots lie in but shallow soil. In the full depth of the individual life, in the concrete inwardness, lies the mighty impulse and matter of virtuousness. Into this rich mine of living reality absolute idealism disdains to descend. It appreciates the subjective only in so far as it has ceased to be a subjective and has rarefied into the general. Hence the weakening of willing to

knowing; hence also *the neglect accorded to the subjective spiritual in general and, with it, to individuality.*

In this connection there is nothing more characteristic than the position occupied by the concept of *morality* in the practical part of the system. It was, as we saw, merely for reasons of pedagogical convenience that the philosopher recognized for one moment the independent dignity of the moral. He can be found still later referring in isolated utterances to the infinite right of the self-determining personality; indeed, a compelling force is possessed by the few passages in which he thrusts forward to the 'inner central point of the individual', to 'the simple region of the right to subjective freedom', to the 'actual source of willing, resolving and doing'. Yet his philosophy is not at home in these regions. We know the accidental character with which morality had to be content in 'the system of virtuousness'. Since the encyclopaedic representation of the system, a separate chapter has, it is true, been devoted to morality; it occupies, significantly enough, the place formerly held by 'the subjective, or crime'. In other words, the merely accidental portent of morality has not so much disappeared as been more sharply accentuated by the scholastic arrangement. Placed midway between abstract law and objective virtuousness, morality represents nothing more than a *point passed through* in the development of freedom and rationality. By claiming to be something independent it would be, rather, in Hegel's view, something unjustified and immoral. The moral legitimates itself only by becoming tributary to the state, only by renouncing its infinite autonomy and the finality of its self-determination. What is otherwise termed moral philosophy is, consequently, dealt with in the second and third parts of the Hegelian *Ethics*. The second part deals only with that moment of morals which pertains to subjective self-determination, and it essentially presents only the inadequacy of this determination in the antinomies between intention and wellbeing, and between the good and conscience. It is not before the third part that a place is found for the positive doctrine of virtues and duties; however, these are not really dealt with there. The highest and worthiest subjective fares no better in Hegel's hands than the subjective in general. Morality is satisfied and put under, just as were critical understanding, the moment of determination and distinction, in the dialectic method. A seat and a vote are assigned in this philosophy only to what is of the nature of thought and to reality. But it is just these which it is unable to discover in morality. Morality, it is held, lacks in the first place 'the substantial of the concept', in the second place, 'the externally existing'. That means that the weakness with which

morality remains afflicted for Hegel stems from his inability to deepen the Kantian conception of the same. Thus he dilutes conscience to knowing, and externalizes the good to the existing order of the state. But the task lay elsewhere. It lay in providing proof that morality has a depth within the inwardness of the subject, deeper than the depth of the thought, and that in the conscience this inwardness provides itself, simply through the concrete reality of the individual, with a body, without which the objective virtuousness of the state would be neither objective nor virtuous.

Turning now, however, to the ultimate reason for this inability, the ultimate reason for this interplay between the conceptual and the externally existing: it is the classical ideal directed towards the beauty of sensuous appearance to which the depths of inwardness are sacrificed. It is *harmonism* which bears it forth beyond individualism. In the *Philosophy of Law* we find the very *culmination of the victory of the former over the latter, of the ancient over the modern, of the Graeco-Roman over the Germanic principle.*

The direct utilization, already familiar to us, of antique building materials for the construction of a modern state had now to be abandoned. Indeed, as the tendency of our philosopher always lay fundamentally in the direction of combining the objective Hellenic spirit with the conscious and inward spirit of modern times, we now encounter from time to time comments on the deficiencies of particularly the antique form of the state, and of the incompatibility of the latter with the requirements of present-day reality and present-day consciousness, comments whose beauty and clarity leave nothing to be desired. He proffers a splendid criticism of the Platonic doctrine of justice, which, in his view, is able to cope with the principle of independent particularity only by adopting with its quite substantial state a hostile and repudiating attitude towards it. Even more exhaustive is, on another occasion, his characterization of the spirit of our times contrasted with that of antiquity. The Greek state fell short of our requirements on two accounts. On the one hand it was the subjective peculiarity and the latter's private particularity which there find no scope for a development not detrimental to the whole; on the other hand there was still a higher need for freedom, which finds no satisfaction at all in the state, which finds it only prior to or subsequent to the state, in the generation of the good and the right inside of one's own mind.

Strange! — but however often such statements recur and however inclined the apologetics of the school may be to refer to them, they are in actual fact nothing more than a tribute that is paid to the modern consciousness and with which the philosopher buys for

himself the freedom to continue living according to the law and customs and sentiments of the ancient republics. His sympathies obscure his insight. At no point in his doctrine is the pathos for the noble form of the Greek spirit preserved in greater freshness than in his *Ethics*. The manner in which the moral — this most characteristic product of the freer and deeper modern way of thinking — is in the *Philosophy of Law* still only apparently emancipated from politics, I have already elaborated on. But it was the same in all the other pieces. Our philosopher of law *asserts*, indeed, that in the antique state the moment of individual independence did not receive its due; yet the very cause of this, the usurping majesty of the state, remains unimpaired. He *asserts*, it is true, that particularity must be set loose and be able to develop more freely; but he says this in order to emphasize that it 'must again be brought entirely into accord with the general' and 'led back into the substantial'. He rises above the antique conception, only to sink straight away back into it. He forms a conception of the right of individual independence; yet, filled with misgivings about the latter's preponderance, he hastily puts all the more load on the substantial side. At the end of it all, after so much recognition of and talk about subjective freedom, the 'divinity' of the state remains the subduer of everything; to belong to the state is declared the 'highest duty'; against the modern view of virtuousness as 'reflected doing from conscience and conviction', the antique view is designated quite simply as the 'true' one, and repeated assurances are given that 'the individual himself possesses objectivity, truth and virtuousness only in so far as he is a member of the state'.

However, the full severity of this conception only becomes apparent in the *detailed exposition* of the state given in the *Philosophy of Law*. It is not merely the modern and antique *consciousness*, but modern *reality* too which is at variance with the latter. The state, as delineated by Hegel twenty years previously, was an on the whole homogeneous construction. Except for the government of the elders and of the priests, it was Hellenic material which at that time was poured into the Hellenic mould. The mould has remained; the material, however, is now being exchanged for that provided by the present. A crasser contrast, a more discordant theory is not conceivable. England's most recent great historian points out in one of his historical essays how ludicrous it was for Roman philosophers, men who lived under despots and dwelt in an empire which was the melting-pot of hundreds of peoples, to continue, notwithstanding that, to speak the language of the Greek philosophers and to descant in high-flown phrases upon the duty of sacrificing all to a fatherland to which they owed nought. To be sure, Roman imperialism was

very different from Greek republicanism, Plato's times very different from Seneca's. Yet the difference was infinitesimal compared with that between the ancient and the modern form of the state. To attempt to introduce into the structure of the modern state the spirit which formed the soul of Platonic politics, is more absurd than it is ludicrous; and the theory which attempts this is all the more erroneous and pernicious, the better it succeeds in artificially concealing the appearance of ludicrousness and absurdity. It is just this, however, which characterizes Hegel's theory. With traits of Lycurgian or Solonian, Platonic or Aristotelian politics are mixed traits of the state as it exists here and now, traits of present-day monarchism, and, to an even greater extent, the traits of the Restoration state and of the Prussian system of government. The beautiful statue of the antique state receives a constitutional or, rather, a black and white coat of paint. We perceive a figure unmistakably modelled after the Prussian state that has come to a standstill half-way through its reforms; but it is illuminated by a light whose source lies in another and far-off time. Upon this barbarian shape the antique garb hangs oddly; its appearance resembles nothing more closely than those French tragedies of Louis XIV's time, in which Orestes enters the stage with rapier and wig, and Electra appears in the robes of a lady-in-waiting.

Thus it is the *principles of life of the modern state in general* which are in the first place falsified and violated under the pretence of recognition. At one time, when he was outlining not the philosophical ideal but the practical project of a true German state, Hegel himself had paid very particular regard to these principles of life. He had on that occasion emphatically asserted that at the present time a powerful state able to fend for itself could be based only on complete individual freedom; as the essential ingredients of such a state he had named a supreme state authority culminating in a monarchy, and an assembly of representatives of the people co-operating with the government. Both appear again in the *Philosophy of Law*, but they are found there once more *in the falsifying light of a Hellenizing idealism*. Thus in the *Philosophy of Law*, too, a constitutionalism is constructed which, so it appears at first sight, is conceived in complete consonance with the modern need for subjective and individual liberty — a constitutionalism such as did not yet exist in Prussia but was merely being envisaged and striven after by the best. Indeed, this constitutionalism is surrounded by such markedly liberal provisions, as, for instance, public-court proceedings and diet debates, and trials by jury — which were all acclaimed by Gans. But let us take a closer look at this. The honour which appears thus

to have been paid to subjective freedom is in truth but nominal and an empty compliment. The liberality of these provisions is not so marked as the facility with which they are blunted and rendered ineffective. The fact that diet debates are public serves, in Hegel's view, about the same purpose as an official gazette; it is above all a corrective of public opinion, and it is a far cry to conceding the alternative possibility: that parliament should be informed by public opinion. It is, furthermore, a means for learning to recognize and respect the talents, virtues and skills of state officials — and once again no mention is made of the alternative possibility. However, the diet itself is at bottom merely an ornament. Freedom does not bear the natural fruits of freedom. The institution of estates does not exist in order that through it the affairs of the state itself may be discussed and determined in the best way: on the contrary — a more insulting compliment is hardly conceivable — the estates are to be admitted to the work of the government only in order that 'the moment of *formal* freedom may come into its own right'. The arguments tendered in support of trials by jury fare no better. That the people should have a part in finding and creating law by their own judgment and feeling — that is not the purpose of this institution. Nor is it its purpose to bring the living bedrock of law, the practical sense, the real spirit of the people, into a salutary mutual relationship with abstract law and the learned understanding of the jurists. What is here intended is — the wording is admirable — 'that the right of subjective self-consciousness should be satisfied'. This is effected by the confession of the accused. The substitute for such a confession, since of course the criminal may deny his guilt, is the verdict of the jury. The significance of this verdict is 'that the same is given from the soul of the criminal'. Thus once again 'the right of subjective self-consciousness' is compounded with, and defrauded by means of mere formal recognition. Ingenious as the argumentation is, it is to an even greater degree sophistic: its essence lies in the transfer of the decision of conscience from one soul to another, in the good catholic externalization and objectification of the subjective-inward.

However, what is perhaps even more peculiar, as far as the theme and the treatment of the subjective is concerned, is the construction of *monarchism* in the Hegelian theory of the state. The strongest argument for the modern hereditary monarchy will be found in its origin in history; one vindicates it when one declares it to be the best-tried means for sustaining self-government of the peoples even in modern states. Yet the Hegelian deduction of this institution flies higher. It is the moment of subjectivity whose meaning for the sake of monarchism is suddenly stretched to the utmost. It is only as

'subjectivity certain of itself, and as the abstract, in so far baseless self-determination of the will' that the sovereignty of the state is said to be able to exist: thus the state must in the last resort taper off into the personality of the monarch at its apex. Indeed, the why and wherefore of this definition is not particularly obvious. Is not the subjective elsewhere in this system the negative that is to be abrogated and is self-abrogating? Is not the highest, in the whole as in the particular, at all times merely process and result, and by no means positing principle beginning in itself? A similar inconsistency can be found, however, in those rare places where Hegel hints at a personal God. We encountered such an inconsistency where, in the predicament of passing from logic into natural philosophy, the personality and the resolve of the absolute idea became a *deus ex machina.* Suffice it that the inconsistency of this definition immediately comes to light of its own accord. In actual fact: the higher the honour appears which is suddenly accorded to subjectivity in the form of personality, the more clearly does it reveal itself to be a mere matter of form. To such lengths does the philosopher at first go with his courtesies that for a while he turns the *order* of the system topsy turvy at the same time as the *principle*; that, contrary to the normal scheme of dialectic, he puts what is highest in the first rather than in the last member of the trichotomy. The 'princely authority' takes precedence of the 'government authority' and of the 'legislative' by the same right with which old-fashioned piety writes the name of God in capitals. By the same right and to the same purpose. For homage enough has now been paid to the principle of subjectivity: the heavy stress placed upon the latter contributes nothing to the real power of the monarch. Faced with the encroaching right of the substantial and with the 'explicated totality of the state', he recedes impotently into the background. It is 'with a perfected organization of the state merely a case of the apex of formal resolving'; the monarch is not the foundation of the edifice, nor even its cupola, but at best the cross surmounting the latter; his entire significance lies in — 'merely saying "Yes" and in dotting the I's'. Hegel, as you see, converges here with the tried practice and theory of genuine constitutionalism; yet the source of this conception is in each case a completely different one. It is the very gravity with which the right of personal liberty and independence, Germanic individualism, asserts itself which, in the fully formed constitutional monarchy, reduces the importance of the sole personality at the head: *with Hegel this personality simply suffers the fate of the personal and individual in general*; it is sacrificed to harmonism, to the whole in its systematic shape, to the merely theoretically subjectivized substance. It is the foundation of the apparently liberal

aspects of the Hegelian theory of the state which invariably betrays more than anything else the spiritualistic weakness and the aesthetic superficiality of Hegel's interest in freedom.

It is, however, to a much greater extent the *specific elements and factors of modern liberalism*, the entire spirit of contemporary opposition to the looming restoration, against which the *Philosophy of Law* conducts a systematic campaign in the guise of anti-republican views and sentiments. On the one hand the antique ideal confutes the philosopher's estimation of the progressive tendencies of liberalism; and on the other hand the reality of the existing Prussian state confutes that ideal. It was, indeed, regrettable that the efforts of the opposition should have manifested themselves only in a feeble and vague half-heartedness that in Württemberg in particular Hegel should have become acquainted with an assembly failing so grossly to recognize its true tasks. The views which he had formed there of the value of the press, of public opinion, of joint rule by the people, he now virtually transferred to the conception of these things in general. With biting Catonism, he now inveighs against the spirit of mistrust and criticism towards the government, branding the latter 'the vanity of wanting to know better'. The people in so far as they are regarded as being in opposition to the government are in his eyes nothing less than the rabble. Public opinion, it is true, is for him on the one hand 'the quintessence of the eternal, substantial principles of justice'; however, it is only where *prevailing* reality is concerned, that reality and idea become for him one; public opinion and public authority are measured with different yardsticks; for him public opinion as such is far from being rational; in its factual appearance it is better described as mere 'contingency of supposing and judging'. Freedom of the press, the most powerful lever of all progress, the best guarantor of political freedom, is regarded by him as a dispensable luxury beside the freedom and openness of debates in the assembly of estates; it serves the 'satisfaction of the tingling urge to have, and to have had, one's say'. The censorious wisdom of the philosopher blusters on in the same tone. Only the uncultured indulge in reasoning and fault finding; for it is easy to find fault, but difficult to recognize the good and the inner necessity therein; to take the negative as starting-point, to place mistrust first, and thence cunningly to devise dams which in order to be effective only require opposing dams — all this characterizes, as far as thought is concerned, negative understanding and, as far as mentality is concerned, the outlook of the rabble, etc. As though all opposition were merely a case of wanting to *know* better rather than wanting to *do* better! As though it were not the case that all reform, however positive may be

the foundations on which it rests, must start out in the first instance from censure and criticism! With such optimism Stein would certainly never have reformed the Prussian state; and it was in fact by possessing an ample portion of that 'negative understanding' and 'rabble mentality' that he and other great statesmen were able to perform unforgettable services for their fatherland when dealing with the maladministration and the threatening practical dangers harboured within it.

However, it is this very state *reformed* by Stein which now at a time of political impotence is absolutized by Hegel. Thus for him patriotic sentiment and political sense merge with, and become indistinguishable from, uncritical faith and oppositionless loyalty. In this state there exist freedom of property, freedom of occupation, and self-government of the lower strata. In accordance with the measure of the official *status quo*, because and in so far as all this has come into being in the Prussian state through Stein's reform, it is constructed from the principle of justified subjectivity. And again, where these things are incomplete, where a quite contradictory spirit holds sway in the upper strata, there the flaws are concealed beneath the mask of the antique state. The rule of Prussian officials is Platonized into the rule of the 'best' and the 'knowledgeable'. The police system and the system of persecution prevailing in Prussia appear in the light of that magnificent energy by which the Roman state subjected its citizens to its sway in order to make them, as best they were able, free. The entire gravity of the philosophical consciousness merges in this point with the entire arrogance and irritability of the mentality of the public official. The governmental, the government-addicted mentality of Hegel combines with his sympathy for the Doric and Roman conception of the state to accord the state authority the widest and most questionable rights. In spite of all the polemics against the Fichtean police state in which 'everything runs to rule', the Hegelian freedom state is much worse than the latter: it is an extenuating construction of police desires as these actually existed in Prussia. The reproach levelled against Kant by Hegel that the former's moral philosophy is compelled to elevate that which is empirically determined in contradiction to its essence to an absolute, this reproach, together with all the hard words about immorality and sophism accompanying it, applies equally to a doctrine which absolutizes the entire system of a particular form of state and government under the name of the system of morality, freedom and reason. Even Aristotle occasionally when he praises true monarchy adapts his conception of the state to the Macedonianism that had come to power in Greece; yet in the literature of philosophy there is no other

instance of such a comprehensive and uninhibited idealization of existing political reality as occurs in the Hegelian *Philosophy of Law*. As has rightly been pointed out, it is only on rare occasions, particularly in connection with the democratic defence system in Prussia, that our systematist is too caught up in his former conceptions to be able to find his way into the freer spirit of the new state. This philosophy of the state, by the way, contains all that is typical of the Prussian state of 1821. There, side by side are the liberal ideas and the liberal institutions, together with the unyielding conceit of overclever officialdom and the stubborn remnants of the old absolutism. Above all, here as there, we find the same, uncertain prospect of a future national assembly. The promise of a constitution had been made: it was not decided whether to fulfil or rescind this promise. The same is true of the Hegelian doctrine. Reduced to something merely formal, the diet of estates is half set up and half taken down. Constitutionalism is vindicated, yet at the same time a hint is given that it is considered dispensable and that one is resigned to its absence: the doctrine is as well suited to the year 1821 as to the year 1830.

A short span of time indeed for a system which otherwise talks at every turn of 'eternal reason' and 'absolute knowing', and which hears of nothing less willingly than modesty of knowing. The consequence, however, is inescapable To absolutize the transient is directly tantamount to subjecting oneself to transience. The Hegelian philosophy of law itself provides *proof of its own, and the entire system's, temporal limitation and unsoundness.*

That a philosophy with the watchword 'What is real is rational', and with the tendency to comprehend a specific, existing situation of the state, can have but temporal validity is in itself clear. That in the double cult of the real and the conceptual, which runs with admirable ambiguity through the entire system, the weight of the real must finally gain preponderance, has become everywhere evident. That, accordingly, also the claim to possess pure and absolute truth resolves into the confession that this truth is in fact a temporally determined one — that we can quite simply let Hegel himself tell us. We return from the paragraphs of the *Philosophy of Law* to its preface. 'To comprehend what is', the preface says, 'is the task of philosophy. As far as the individual is concerned, each is in any case the child of his age; thus philosophy too is its age apprehended in thought. It is just as foolish to suppose that any philosophy can pass beyond its present world, as it is to suppose that an individual can outleap his own age.' 'Philosophy always comes too late to teach how the world should be. As the thought of the world it appears only after reality has completed its process of formation and taken final

shape. When philosophy paints in sombre colours, then a figure in life has become old, and with sombre colours it cannot be rejuvenated, only recognized; the owl of Minerva starts its flight only at the fall of dusk.' Thus runs the naive self-confession of absolute idealism that it is in fact *not* absolute. It is the thoughtless antistrophe to the epilogue of phenomenology. A bungler indeed in the understanding and use of the Hegelian dialectic would be he who was unable to conceal with the aid of its logic the double bottom which thus appears in this philosophy, as effectively as was done through the distinction of the true and contingent real in the case of the contradiction of its empirical and idealistic nature. Let us leave this exercise to the school, if it does not find the simple repetition of thoughtlessness more convenient still. Indeed, logic, too, has already shown us its independence of empirical reality and of the temporal form of life; our task lies not in concealing, but in revealing.

It lies furthermore in the general search for *the permanent in the transient.* Even the philosophy of law has, despite its temporal determination, an enduring core. Even with this enduring core, it is but a particularly intelligible commentary on the whole system.

It is only in the projection of the concept, it is true, and in the subordination to the intuition of beautiful concord that in the Hegelian state freedom, the moment of subjectivity and individuality come into their own. Hegel descends into the depths of these moments only to ascend again immediately to the surface of beautiful appearance and to the ether of thought. Even so traces of subjective vitality remain unobliterated in his portrayal of the state. They become logicized and aestheticized into the ubiquitous concepts of *arrangement* and *organization.* Even before the form of the system at the level of reflection was finished, the ideal of life became intertwined with the ideal of beauty and totality. In a plastically tangible form the value of this intuition thrusts itself once more to the fore in the sketch of the state. Thus, whatever injustice was done to the mentality, the conscience, and all the powers of inwardness — this injustice is to some extent made good by the concept of the *organic,* and to a certain degree movement and life are restored to the rigid form of the Hegelian state. From this transformation of the inward and free into a concept, an aesthetically coloured concept, some life flows back into the veins of the otherwise dead body of virtuousness. The motives were more correct which earlier on had induced Hegel to forbid the state authority, such as was demanded by him for a new German Reich, all interference in the free activity of the people themselves; some of this vitality at least is still preserved at this time; to some extent at least the substantial mightiness of the state is

moderated by the dialectic of the concept of organism. The Hegelian metaphysics was entirely based on the thought that 'All that is, is mediate'; his philosophy of law also characterizes the constitution of the state as being in essence 'a system of mediation'. With this result of logic the antique portrayal of the state again acquires something of the Germanic form of the state. It acquires it in a roundabout way, it is true, and from above; it acquires it, moreover, *per accidens*: nevertheless, in this way the need for freedom and self-government is accorded a kind of recognition. The principal merit and the real value of the Hegelian constitutional law lies in the salvation of the concept of the organic from the rigid absolutism of the antique, in particular the Roman, state, and to a still greater degree, from the atomism and mechanism of the French state. What in this connection we picked out and praised from the essay on the Württemberg Estates, we discover again in the *Philosophy of Law* and, more particularly, in its appendices. According to the latter the state is not something 'made'. Nor, it is true, is it conceived as a creation of living freedom, but nevertheless as an organic order which is above all making because it posits and arranges itself, and brings itself back out of the arrangement to unity. The state can be as little governed from above and from the abstract general, as it can be made from thence. It can be neither put together from the atomistically splintered mass nor subjected to a centralizing rule. Its constitution must instead be linked to the arrangement actually existing among the people; it must be ruled concretely from beneath, where civil life is concrete; the real strength of states lies in the communes; it is in estates that civil life arranges itself: this civil arrangement must be elevated into the political sphere, and the government must be allowed to grow organically from the organic elements of the state.

But it is not merely in this version of the concept of the state that much profound truth is contained. The spirit of *true political practice* is also encountered, though in a peculiar guise, in Hegel's philosophy of law. Only a scholastic distortion of truly living cognition revealed itself to us in the absolute method of the Hegelian logic. This living cognition which mediates aesthetically between intuition and concept has corresponding to it in the sphere of practice a doing which mediates in a like manner. Ethical-political wisdom, too, consists in nothing other than the ability to keep ideas constantly in mind while at the same time meeting individual circumstances, all the conditions and needs of reality. In a partly violent and partly sophistic manner the Hegelian logic combined doing and content of understanding with doing and content of intuition. An equally

scholastic picture is drawn of the essence of true politics by Hegel's doctrine of the state. The moments of the true, statesmanlike mode of acting appear with him only disjointedly and alternatingly, and are then brought together again only by violence and cunning. Now he directs his polemics against all individualizing pragmatism, against political reasoning motivated 'by aims, reasons and considerations of utility'; it is the nature of his logic which causes him to postulate that merely 'the self-determination of the concept' is to decide. What he now requires of the practician — to supplement and correct this practical panlogism — is once again the recognition of the real, the investigation of the concrete and the individual. 'What is real is rational; what is rational is real' — this hard formula which opens the sluice gates to all forms of sophistry and tyranny is the ultimate and supreme means by which the practice of the idea is to be reconciled with the practice of the routine. However this may be, in this hither and thither and in this motley nothing less than the same meaning is concealed as that which constantly asks the true statesman to mediate between the real and the rational, the finite circumstances and the great principles, between reasons and the reason, and between the useful and the unconditional. Virtuous conduct, too, putting it in another way, is, like the cognition of truth, a living art. To have changed this art into a doctrine, and the method into a system, is the greatness and the error of the Hegelian philosophy. It itself, however, constantly expresses a clear consciousness of the living spirits which it imagines it can captivate in doctrinarian *a-priorism*. The absolute theory of virtuousness repeatedly invokes the testimony of 'truly healthy human sense'. In the theoretical sphere, 'rational viewing', by reason of its allegedly concrete character, is supposed to correspond to 'contemplative natural viewing'; in the practical sphere, it is supposed to correspond to a 'practical sense' guided by ideas. The Hegelian logic and natural philosophy refer to Goethe. Hegelian politics could refer to men like Stein and Wilhelm von Humboldt — if it did not prefer to make peace with the state of the Restoration and common cause with the statesmen of Aachen, Karlsbad and Vienna!

II. CONCLUSION

Hegel lectured for the last time on the philosophy of history in the winter of 1830 to 1831. The times were such as might well have shaken the belief that in our fatherland all things were as they should be. Revolution had knocked once more upon the doors of history which the policy of the Restoration had closed. On France's eruptive

soil the order of things set up by the cabinets of Europe had crumbled overnight; the glowing ashes were strewn out far beyond the boundaries of France; in our fatherland, too, the upheaval which had brought about the fall of the Bourbons was felt in single shocks. Panic terror seized the congress politicians; and a boundless consternation took possession of the philosopher of the Restoration. Perhaps some foreboding crept upon him that this new world-movement, if it should gain further ground, would put out of joint not only the state, but also a system: the system of absolute idealism. This time, however, the revolution assumed milder forms; both here and over there the arts of accommodation, propitiation and acquiescence were being practised; the new French citizen-monarchy, too, was restorationist and peaceable; it was once again possible to evade and conciliate. This was done by the German statesmen — and by the philosopher too.

Resolved not to permit his circles to be disturbed, Hegel clung all the more firmly to his principles and to Prussia, with her happy, proper monarchist constitution. The conclusion of his lectures bears all too clearly traces of the endeavour to overcome the fear of the onward surging course of events by the definitive comprehension of history. Thus he garbles the events of the recent past. It is not the sins of the Restoration, but the sins of liberalism for which France has atoned with her July revolution. Freed from this principle, the principle which ascribes validity to atomistic individual wills, the German state is beyond the reach of the revolutionary crises which had been the fate of France. Here the great principles of the freedom of property and of person have become reality: every citizen, provided he possesses the required knowledge and skill, participates in the government, which resides in the realm of public officials; and while the personal decision of the monarch is paramount, it is in fact the best and the knowledgeable who govern.

But fear for the threatened peace of the world leaves the philosopher without peace of mind. Indeed, the spirit of unrest seems to be about to triumph even in conservative England — even in the country which had been able to uphold its constitution unshaken throughout the storms of the first French revolution! 'Reform', cry Russell's friends, 'in order to preserve!' In feverish excitement the nation is hammering at the gates of Parliament; it means to wrest from the stubbornly resisting Tories — if necessary, with violence — their assent to a reform of Parliament. In view of this agitation, our philosopher of history once more turns his hand to journalism. He writes in the Prussian gazette his last essay: A Critique of the English Reform Bill.

If the motive for this essay is concern at the way in which the conditions of the Restoration were being shaken, its attitude is a combination of a theoretician's supercleverness with a Prussian official's conceit. It is not that Hegel disapproved of the Reform Bill's aims or provisions; rather he perceives the danger in reforming as such. The English state, if we are to believe the German philosopher, more than any other state is in a condition which calls for improvement, but is less able to bear improving than any other. With a highly creditable knowledge of details, he gives prominence to the real shortcomings in the English system. We may certainly concur with the critic in what he has to say on, for instance, primogeniture, the abuse of benefices and other privileges, on the status of the Church of England, on misgovernment in Ireland and the social and economic consequences thereof. We shall be as little willing as Hegel to defend that which is best left to the admiration of antique collectors: the rust of centuries which encrusts and distorts the institutions of England. We may concede that the English constitution is 'an aggregate of positive decrees devoid of inner cohesion', and we may hold that the more systematic character and sharper outlines of modern constitutions represent at least theoretically an advance. Yet, it is not possible to conceive an appraisal of the British state more biased than this one, which sees only its shadowy sides and simply ignores the abundance of liberal forces which hold sway therein. Again it becomes clear that the living process of freedom means nothing to our philosopher, that the systematism of the concept and the objectively constituted, ordered freedom — however unfree, bureaucratic, and upheld by police authority — mean everything to him. What value can be attached to his construction of constitutionalism and his occasional extolling of self-government now becomes clear. Nowhere else has the principle of self-government been realized on so broad a scale, with such splendour and yet with such moderation; and nowhere else have the blessings of self-government proved their value so well, as in the parliamentarianism of the British. Yet in Hegel's view this parliamentarianism is the incarnation of political corruption and irrationality. It is the 'pomp and hubbub of formal freedom' which preclude genuine freedom and reflection on it. In the guise of freedom a self-seeking and covetous oligarchy has set itself up and is playing into the hands of the worst kind of democratism. Positive privileges, traditional sectional interests, and behind all this the lack of understanding on the part of the mass and the passions of the rabble — these are the elements which make up the life of the English constitution. All the biased narrow-mindedness, all the violent ill-temper which

typify the opinions of political parties about their rivals find vent in Hegel's opinion of the British parliament. Prussian bureaucracy, allied with German idealism, takes up arms against the English form of the state and against the practical-empirical reasoning of Francis Bacon's countrymen. Hegel speaks of the fundamental institute of English freedom in the same way as the Brandenburg Junker spoke of the 'nation of shopkeepers'. He is not content with painting in glaring colours the excitement and intrigues at the elections and the existing system of bribery; in his eyes even parliamentary debates and speeches are but a poor substitute for the wisdom that emanates from the conference table and filing cabinets. Most of this assembly's time is occupied with statements by members on their personal positions; and these members put forward their views not as men with a job to do, but as privileged individuals and speakers. The eloquence of these speakers is 'garrulity surfeit with self-ostentation'; only the sober lectures of a man like the Duke of Wellington — who as a Tory statesman is indeed a man after our critic's heart — find favour in Hegel's eyes. The refrain accompanying all this bad-tempered eructing is the exuberant laudation of the German and Prussian state. Here the work is already completed which in England has yet to be done. Here the great spirit, the wisdom and love of justice of the princes, and the unobtrusive influence of several centuries' scientific training have brought about that which the British nation has been unable to obtain from its parliament. What is mainly responsible for Britain's backwardness compared with the civilized states on the Continent is the weakness of the monarchal authority. Jealousy of the crown's power is 'the most stubborn of English prejudices'. Thus even the attempted reform will probably lead all the sooner to ruin. Should, that is, the bill being at present disputed open the way into parliament to principles opposed to the present system, then the struggle would become all the more dangerous for there being no central, higher power to mediate between and restrain the interests of positive privilege and the demands for a more real freedom. It is only through governmental power that the rational principles of justice and freedom can be successfully realized. In England power is in the hands of the privileged class; consequently the advocates of those more correct principles can only come forward as an opposition to the government and the existing order of things. These principles will for this very reason be able to assert themselves not in their concrete, practical truth and application as they have done in Germany, but in the dangerous form of the French abstraction. The realization of these reforms runs counter to the principle of the English state; they can hardly

be carried out without seriously shaking the structure of society and of the state.

It would serve no useful purpose to refute the reasoning of this self-satisfied and fearful bureaucracy. It was not long before history itself proved that these pessimistic prophecies about foreign countries were as unfounded as the idealizing conception of conditions under the Restoration in the fatherland. Yet Hegel was to live to see neither the one nor the other. It was at this very moment that cholera broke out for the first time in our part of the world to frighten the politically terrified spirits with new terrors. It rapt the philosopher, too, from the midst of his work: he died on the anniversary of Leibniz's death, on November 14th, 1831.

(Translated from the German)

ART AND PSYCHOLOGY

By R. Harré

In modern terms any value-judgment, among which aesthetic judgments must be included, has both a 'descriptive' and an 'evaluative' element; evaluation since the value-judgment is used for what has been called *grading*[1] the thing evaluated, and descriptive since reasons for the evaluation can be given which must be expected to appeal to people in general and so must be in some way public. Grading depends upon a certain preference for the thing and often this preference stems in the first instance from feelings and reactions which the thing provokes in us, by virtue of its physical characteristics. One might say that we employ two sets of critera for grading, subjective concerning our feelings, reactions, attitudes and so on, objective concerning the properties of the thing we find desirable. These sets of criteria are not independent for the choice of desirable properties is determined in large measure, though sometimes not entirely, by the feelings and reactions which we have to the object.

The public use of evaluative expressions depends, as Kant saw[2] and as Professor P. H. Nowell-Smith has recently emphasized,[3] on the acceptance of certain general beliefs, which we would regard as presuppositions of the correct *public* use of value-judgments. There are two such presuppositions:

(*a*) The universality of *reaction* presupposition: that most people will have more or less definite feelings and more or less definite reactions when they contemplate the thing judged.

(*b*) The universality of *preference* presupposition: that most people will prefer or not prefer (evinced by their choices) things of the given prescription.

Any theory of aesthetics must provide an explanation for these general presuppositions that lie behind the public use of value-judgments. The two together we might call the *fact of appreciation.* So far I have not distinguished the appreciation of artefacts from the appreciation of naturally occurring things, for the account of the value-judgment above is meant to be perfectly general and to cover all cases where we use words like 'good', 'beautiful', 'delightful' and so on. The existence of *works* of art puts another burden on aesthetic theory for people make works of art deliberately, so that we must postulate a certain urge to their production. This urge to

[1] J. Urmson, 'On Grading', *Logic and Language II*, ed. A. G. N. Flew, p. 159.
[2] I. Kant, *The Critique of Judgement*, sect. 8.
[3] P. H. Nowell-Smith, *Ethics*, pp. 85ff.

create works of art must also be explained by any theory that aims at comprehensiveness. We might call this the *fact of creation.* Finally it is evident from what critics say about works of art, particularly literary productions, that many people find works of art specially significant; that they experience various kinds of personal identification with the work of art. It is not easy to specify this element of significance very exactly, for its precise quality depends both upon the kind of art in which it is found and upon the character of the person who feels this significance. It is, however, something over and above the pure appreciation of the work of art, for it derives not from the form or structure of the work but from its content. I shall call this feature of appreciation of the arts the *fact of significance.* It follows then that there are three very different sorts of fact which must be explained by an aesthetic theory: the fact of appreciation, the fact of creation and the fact of significance. I want to investigate how far psychological theories of art, represented by the Freudian theory, provide an explanation for these facts; and how far the Freudian theory as it stands provides a comprehensive explanation of all the phenomena connected with aesthetic appreciation.

Freud sets out his theory of art in two passages both of which are, I think, worth quoting in their entirety. In the *Collected Papers*, vol. IV, p. 19, he says:

> *Art* brings about a reconciliation of the two principles [reality-principle and pleasure-principle] in a peculiar way. The artist is originally a man who turns from reality because he cannot come to terms with the demand for the renunciation of instinctual satisfaction as it is first made, and who then in phantasy-life allows full play to his erotic and ambitious wishes. But he finds a way of return from this world back to reality; with his special gifts he moulds his phantasies into a kind of reality, and men concede them a justification as valuable reflections of actual life. Thus by a certain path he actually becomes the hero, king, creator, favourite he desired to be, without pursuing the circuitous path of creating real alterations in the outer world. But this he can only attain because other men feel the same dissatisfaction as he with the renunciation demanded by reality, and because this dissatisfaction, resulting from the displacement of the pleasure-principle by the reality-principle, is itself a part of reality.

Freud elaborates this brief account in the *Introductory Lectures on Psycho-analysis*, p. 314. There he says:

The artist has also an introverted disposition and has not far to go to become a neurotic. He is one who is urged on by instinctual needs which are too clamorous; he longs to attain to honour, power, riches, fame and the love of women, but he lacks the means of achieving these gratifications. So like any other with an unsatisfied longing, he turns away from reality and transfers all his interest, and all his libido too, on the creation of his wishes in the life of phantasy, from which the way might readily lead to neurosis. There must be many factors in combination to prevent this being the whole outcome of his development; it is well known how artists suffer from partial inhibition of their capacities through neurosis. Probably their constitution is endowed with a powerful capacity for sublimation and with a certain flexibility in the repressions determining the conflict. But the way back to reality is found by the artist thus: He is not the only one who has a life of phantasy; the intermediate world of phantasy is sanctioned by general human consent, and every hungry soul looks to it for comfort and consolation. But to those who are not artists the gratification that can be drawn from the springs of phantasy is very limited; their inexorable repressions prevent the enjoyment of all but the meagre day-dreams which can become conscious. A true artist has more at his disposal. First of all he understands how to elaborate his day-dreams, so that they lose that personal note which grates upon strange ears and become enjoyable to others; he knows too how to modify them sufficiently so that their origin in prohibited sources is not easily detected. Further, he possesses the mysterious ability to mould his particular material until it expresses the ideas of his phantasy faithfully; and then he knows how to attach to this reflection of his phantasy-life so strong a stream of pleasure that, for a time at least, the repressions are outbalanced and dispelled by it. When he can do all this, he opens out to others the way back to the comfort and consolation of their own unconscious sources of pleasure, and so reaps their gratitude and admiration; then he has won — through his phantasy — what before he could only win in phantasy: honour, power and the love of women.

Briefly Freud supplies explanations of the three outstanding facts to be explained as follows:

1. The urge to create works of art is to be explained by the conflict between pleasure-principle and reality-principle. The artist is one who cannot reconcile himself to the restrictions of real life but by

creating in phantasy a world which he does find satisfactory the conflicting principles are reconciled.

2. His works are appreciated because they satisfy the demands of the pleasure-principle in everyone, which has to a greater or less extent been swamped by the demands of reality. It is this which accounts for the more or less universal assent to aesthetic judgments.

3. The significance that most people find in a work of art follows from their discovering in it something of their own phantasies and the satisfaction of those instinctual urges which are repressed or redirected by real life.

The method of finding satisfaction and of reconciling the demands of instinct and reality adopted by the artist has the further desirable corollary that since he appeals to a conflict which occurs in everyone he may find in the popularity he acquires the real satisfaction of his instinctual requirements, the frustration of which lead him to art in the first place. There is nothing in this theory of the logical elements that are found in Kant's account of art and artists in the *Critique of Judgment*. The universality of the judgment of taste which Kant thought required a logical foundation in the necessary conditions for communication is replaced in Freud's theory by an alleged fact; that everyone's mental development follows the same broad outlines. The significance of works of art, which Kant saw in their reflection of moral principles, is understood in quite a different way; as revealing, not the concepts at the back of the most civilized and highly developed behaviour, but as satisfying the most primitive instinctual urges which are repressed in the conditions of civilization.

A possible source of confusion must be exposed before we proceed to consider the logical status of Freud's theory. We often say that an explanation is given by giving reasons for a phenomenon but there is an ambiguity in the use of the word 'reason'. It may be used as a synonym for 'statement of the cause'; for example 'What was the reason for the accident?' can be answered by giving the causes of the accident. But 'reason' may also be a synonym for 'premise'; for example 'What are the reasons for supposing that the sun goes round the earth?'; and here we are being asked for the logical grounds of the statement 'The sun goes round the earth'. An aesthetic theory may provide an answer to either or both of these 'reason'-questions, for it may give us the causes of our having certain feelings, of our liking for certain things, and even of our making certain judgments; but it may provide the premises or grounds of which the aesthetic value-judgment is in some sense a consequence. If the judgment sums up our feelings and preferences the premises from which we

could derive it logically may coincide with statements of the causes of the feelings and preferences but they might not. In the case of Freud's theory they would not for by hypothesis the causes of appreciation are hidden from us by repression. It should not be supposed though that when a philosopher provides a demonstration of an aesthetic judgment he has always provided a statement of either the causes that prompted the judgment *or* the causes of the feelings or the preferences that are summed up in the judgment. However, a psychological theory is, by its very nature, aimed at exposing the causes of feelings and preferences, not at providing an analysis of the premises from which the judgment is derived.

In addition to providing us with reasons for phenomena a good theory is usually able to provide us with an understanding of the phenomena it sets out to explain. Understanding comes from grasping how something works; and theory provides this grasp either by describing what is *in fact* the mechanism underlying the phenomena in which we are interested, or by describing a *model* of the underlying mechanism. It thus provides us with an analogy; with something with which we are supposed to be familiar or which can easily be explained. An explanation may be either causal or analogical or both. Freud's theory provides us with an explanation of both sorts. It provides us with a picture of the processes of development of human personality in terms of a highly simplified model, the conflict between reality-principle and pleasure-principle, and the mechanism of repression; and it also provides us in the idea of phantasy and day-dreaming as a way out of this conflict with a system of causes of which the production of works of art, their appreciation by and their significance to the public are effects. It is important in judging the success of a piece of theory-making to distinguish between the satisfactoriness or unsatisfactoriness of a model which does not depend upon any direct empirical verification, and the empirical testability of alleged causal relations. Of course if the causal relations suggested by a model are found not to occur in practice then the model is an unsuitable or even positively misleading construction, but if the causal relations are more or less closely exemplified in the correlations of happenings the retention or rejection of the model may come to depend upon other more or less precise factors such as intelligibility, agreement with common sense (a much invoked but nevertheless obscure criterion), simplicity and so on. A theory then meets two kinds of doubt; doubt about its power to suggest empirical relationships and doubt about its having the features we commonly want in theories over and above empirical success.

Professor K. Popper raised a general objection to psycho-analytic

theories[4] on the ground that they were not open to refutation being constructed in such a way that whatever happened could be explained in terms of the theory and hence these theories explained nothing; rather as a witch doctor attributes his successful spells to the efficacy of his routine and his failures to the *capricious* anger of the gods. It may well be true that psycho-analytic explanations *in their general form* fail for reasons of the sort Popper alleges, but it does not follow from this that they might not provide proper explanations if restricted to certain fields, say aesthetics. The question is 'Could we imagine a case in which Freud's theory of art would have to be withdrawn if the result of a certain investigation turned out unfavourably?' Popper's objection, in the case of Freud's theory of art, could be put for example by our asking if anyone who did not suffer some kind of repressive conflict which he solved by day-dreaming ever in fact became an artist; if someone who had succeeded in bending reality to his wishes then turned to the production of works of art. On Freud's theory either no one in fact does do this; or if they do it this *shows* that they had an unresolved conflict all along. Whether this would be the explanatory step which would be taken by a Freudian I do not know; Freud himself has not pronounced on the question. But if it were the step it would have the following consequences:

1. 'An artist is one who develops his repression-generated phantasies in a powerful and subtle way' becomes analytically true and hence useless for explanation.
2. The theory which makes it analytic loses all explanatory power, for analytic truths do not *advance* our understanding.

Since Freud did not discuss the question we may assume for the sake of argument that there is some other way than the choice of profession from which we can determine whether artists suffer from the reality/pleasure conflict in an acute form. Freud does himself suggest this in the second of the two passages quoted above when he says: 'It is well known how artists suffer from partial inhibition of their capacities through neurosis.' If we can determine independently that certain people are of this characteristic psychological make-up and later find a high positive correlation with the choice of art as a profession then we can admit that a genuine explanation has been given; an explanation that would lead us to postulate certain cause-and-effect relations which could be put to a positive test. I do not know whether such testing has been done but the fact is irrelevant

[4] K. Popper, *British Philosophy in Mid-Century*, ed. C. Mace, p. 157.

from a philosophic point of view, for I wish simply to establish that it makes sense to suppose that it might have been done, for if it might be done we have from Freud a genuine, though perhaps erroneous explanation of the urge to create works of art.

Since I think we can fairly acquit Freud's theory of art of explanatory vacuousness, at least in the more obvious and central cases, we must now ask ourselves whether we have any good reason for believing it. Does it as a model have the desirable features of intelligibility, simplicity and so on; and is it sufficiently comprehensive to explain the urge to create every known kind of work of art? That is to say, can all kinds of works of art be represented as externalized day-dreams or do we have to stretch the theory to empty analyticity so to represent them? By investigating these questions we can investigate Freud's theory indirectly through one of its consequences.

The existence of abstract and non-representational art, of pure decoration, of abstract and formal music, seems to me to be very difficult to explain on Freud's theory. It might be the case that the people who create such art are doing it for 'fame, riches and the love of women', but it is very hard to see how, for example, the designer of an abstract patterned wall-paper is allowing 'full play to his erotic and ambitious wishes'. Nearly everyone who does anything more than keep body and soul together could be represented as doing what they do for the sake of 'fame, riches and the love of women'. The special feature of the artist's impulse according to Freud is that he takes the devious route of *first* satisfying these desires in phantasy and only *later* satisfying them in fact. But in non-representational and abstract arts it is hard to see how phantasy-satisfaction can enter at all. The attempt to bring this in to the abstract arts was made by the ingenious Jung.

Jung calls the elaboration of sounds, of which music is a part, the first art[5] and explains its genesis and general appeal, if I have understood him correctly, by reference to the *repression* of part of mating-behaviour leaving only the love-call. A love-call which becomes detached, as it were, from the business of mating and so has its final outcome suppressed, has a surplus 'energy' which is released by the elaboration of the call for its own sake. Such an explanation as this seems to me quite fantastic if it were to be given as an account of the appeal which every kind of music has for us. It seems to me to be derived from a wish to provide *one* type of explanation for all the phenomena of human experience including

[5] Jung, though providing a good example of tautological explanation here (*Psychology of the Unconscious*, p. 98), should not be taken too seriously on this point as he himself takes Freudian psycho-analysis severely to task for proposing a unitary explanation of art. See particularly *Contributions to Analytical Psychology*, p. 325.

aesthetic satisfaction. But at this distance of departure from the central cases of the representational arts, for which Freud's theory is at least a plausible explanation, it seems to me that to provide an explanation in terms of erotic wishes is to extend the theory to vacuous tautology. The only grounds for the extension seem to be: here we have a pleasing sensuous experience — listening to music — and all pleasing sensuous experiences have their origin in the satisfaction of erotic wishes, but since none is here obviously operative we postulate a repressed satisfaction. And this seems to me to lead to the kind of empty tautology which has brought *general* psychoanalytic explanations into disrepute.

To return to Freud's theory; there is one further fact about people who create works of art that it does not seem to me the theory explains. How are we to account for the man who perhaps began his career to solve a conflict, continuing to produce works of art after he has acquired the fame, riches, etc., in real life the lack of which spurred him to phantasy in the first place? Is it just a habit he finds hard to break, or does he never *really* overcome his original problem? The appearance of the word 'really' is a danger signal for theory-constructors for it signals the descent into *hidden* facts that is the beginning of metaphysics and the death of useful explanation.

As an explanation of the urge to create works of art Freud's theory suffers from being too closely tied to one central conception of art, the representational. For much of representational art Freud's theory may do well enough, for the externalizing of a dream-world in which the artist's and everyone else's frustrated wishes are realized may serve as explanation of much literature and some painting, but clearly won't do for all. Its extension to kinds of art which could not by their very nature serve as the vehicles of phantasy is either palpably wrong or if forced through in the face of obvious facts makes the explanation degenerate into a series of tautologies.

Freud's theory proposes a general explanation too for the reactions of those who contemplate the works of artists. The fact of appreciation and the fact of significance are to be explained as the result of a partial satisfaction of the audience's repressed instinctual desires in a phantasy which covertly shows these wishes fulfilled; covertly because as Freud points out if the fulfilment of instinctual demands were displayed openly this would lead to the rejection of the work of art for the same reasons as the instinctual demands were repressed in the first place. It is the fact that the real character of a work of art is hidden that accounts for the feeling of deep significance. But will this do as a *general* explanation of aesthetic appreciation and the feeling of significance?

Aesthetic appreciation covers a very wide range of feelings and reactions that are stimulated by an enormous variety of kinds of things. Are we to take Freud's theory to be applicable to them all? I suggested above that his theory applies much more closely to the arts where things, people and situations are represented, but that it fails to explain the urge to create abstract works of art, in which nothing is represented. It seems to me that for the same reason as it fails to account for the production of works of art, namely its implied concentration on representational arts, it cannot explain the whole range of aesthetic appreciation, for decorative and abstract arts cannot be appreciated for their covert representation of the satisfaction of instinctual needs since they do not represent anything. Furthermore if we try to *extend* the theory to abstract art either by the method of looking for the origin of abstract arts in repression or by a theory of unconscious symbolism we are in danger of the same sort of tautological breakdown that beset the general application of the theory to the urge to create works of art. Freud was specifically talking about 'Art', so it would not be fair to accuse him of failing to explain the aesthetic appreciation of naturally occurring things, but it is illuminating to ask how the theory would fare if extended to natural beauty: human beings, animals, landscapes, snow-flakes and so on. It might be reasonable to seek for the explanation of the natural beauty of human beings in repressed instinctual urges but it is not at all obvious how this idea could be extended to apply to landscapes and crystals. Once again the theory must be presumed to fail as a general explanation through being too narrowly based.

An aesthetic theory ought also to provide an explanation for the preferences we show for one work of art rather than another, for the way we are able to judge works of art good and bad, and obtain more or less general consent to our judgments. Even in the central areas where the psycho-analytic explanation of aesthetic appreciation seems to be most convincing, the representational arts and particularly literary arts, the criterion which is implied in Freud's account of the arts does not seem to account for the way we do in fact show preferences. He speaks of the artist as knowing 'how to modify them [his day-dreams] sufficiently so that their origin in prohibited sources is not easily detected'; so that at least one very important criterion of a good work of art is the subtlety of the disguise which surrounds the instinctual material which the work of art represents. This seems a very Victorian conception of the appeal of art to us now; for now the literary arts take little heed of any need to disguise the source of their material. Much more important to us is

the quality of the presentation and when we admire subtlety it is not because it disguises the sources of the day-dream but because it presents these sources in a new and perhaps refreshing way.

The psycho-analytic explanation is too much a reflection of the character and prejudices of the time at which Freud put it forward for it to be a sound general explanation of the creation and appreciation of works of art, let alone the kinds of aesthetic satisfaction we derive from things that occur naturally. I am inclined to think, though I do not wish to discuss it here in detail, that the family of situations and feelings, reactions and preferences, that we call 'aesthetic' is sufficiently wide and sufficiently variable in character to be incapable of any *single* explanation and that what we do in fact want is a family of explanations.[6] Freud concentrated his theory on the content of works of art, but it is more in keeping with the facts to say that both form and content are proper subjects for appreciation. Indeed the existence of abstract arts shows us that form may become detached from representational necessities and become the basis for aesthetic satisfaction alone. But the complementary possibility is not the case, for I think it sufficiently demonstrated from the character of the commoner sorts of literary criticism that the content of a work of art (say plot, or situation) is insufficient by itself to merit our *aesthetic* appreciation; though we may indeed admire plot or situation for other reasons; ingenuity, originality and so on (and this is a fact about the way we use the technical term 'aesthetic', not a fact about human psychology). Considerations of *style* provide fundamental aesthetic criteria.

These considerations notwithstanding there may be a place for Freud's theory or a theory of the same general type, not as providing an explanation of the highly developed forms of aesthetic appreciation, but as an account of the origin of the ways we come to attach value to certain objects; as an account of the origins of the deep feelings aroused by certain kinds of things and certain strings of sounds; and indeed by certain arrangements of words. It might indeed be the case that the arts were originally representational and that only later did the appreciation of form alone detach itself from the undifferentiated preferences we have for things of a certain kind. This is a matter for anthropologists and historians, but in developing such an account we must be prepared to consider the multiplicity of kinds of aesthetic satisfactions. It will not be such a simple detachment of reaction as Pavlov demonstrated with his dog.

[6] This point was to some extent seen by C. Jung when he criticized the Freudian theory of art in *Contributions to Analytical Psychology*, p. 325, and has been very forcibly put as a philosophical point by Miss M. Macdonald, 'Art and Imagination', *Proceedings of the Aristotelian Society*, 1952-53, p. 207.

ANALYTIC PROPOSITIONS, DEFINITIONS AND THE *A PRIORI*

By Hector Neri Castaneda

I. INTRODUCTION

1. *A Philosophical Mission*

In his new book, *Semantics and Necessary Truth*, Professor Arthur Pap proposes to examine the 'very foundations of analytic philosophy' by discussing the much-debated distinctions: analytic-synthetic and contingent-necessary. The discussion is highly technical throughout the 430 pages of the book; Pap's only concession to 'such brave uninitiated readers' (i.e. uninitiated in Logical Positivism) as may want to use the book is an appended glossary of terms (p. viii).

The treatise is a cross between an advanced textbook of exercises in philosophical tactics and Pap's memoirs of his adventures. Graduate students will certainly find this collection of arguments a most valuable grinder of their philosophical teeth. Now, Pap has discovered that Logical Positivists have stolen the riches and titles of the noble maiden Necessary Material Truth to elevate Analytic Truth to the throne of *a priori* certainty. Pap swears to champion her cause, and the whole book is the tale of his adventures while defending her. Each section is a complete, separate story, the story of the scalp of a rival theory in Pap's Indian collection.

The enemies fall one by one: Lewis, Quine, Popper, Goodman, Moore, Russell, Lazerowitz, etc. In that lies Pap's primordial strategy: 'divide and conquer'. He generally assigns a topic to one philosopher and he then goes after him with all his might. He allows no alliances, no ramifications, no deviations. He gets his man on the allotted issue and that is the end of the man. Thus, Quine is destroyed in the field of logical truth and no Quine can be found to stand his ground regarding analyticity or the language of science. Waismann perishes in an attempted attack on ostensive definitions, and not even his ghost has anything to say on analyticity or open-textured concepts. Nagel is defeated in his claim that the necessary truth of a logical principle rests on conformity to established use, and no heir of his can rise to fight in other contests. Lewis is sunk with a suggested definition of analyticity and he is lost for ever. Only Russell and Carnap are given the privilege of several encounters.

But, such a missionary fighting has its consequences. The adventures come so quickly that there is not much time to stop and take stock of the situation. Often the excitement so envelops us that we

forget that we have not even seen a photograph of our Noble Maiden, nor do we know where her kingdom is. Although occasionally Pap stoops to draw a brief summary of his views, the dust of battle does not let us see where the long string of arguments leads to.

There is another perplexing feature of Pap's book: He never clarifies the role or status of the definitions of 'analytic', 'strictly analytic', 'broadly analytic', 'logically true' which he offers after he has accomplished one-third of his demolitionary task; many a reader will be tempted to ask 'Why doesn't he leave the matter here? Aren't these definitions his proposed "analyses"?' But at that moment Pap's campaigns have scarcely begun. Many of his later statements, however, do not reconcile easily with those definitions — e.g. p. 367 contains an explicit criticism of definitions very much like his. Yet these definitions (127ff) are the very same ones he offers in his glossary to help the 'brave uninitiated readers'.

2. *Main Theses*

As far as I can make out, the following are among Pap's fifteen fundamental assertions:

(A) The distinction between contingent and necessary propositions is vague — 'in the same sense that the bald-nonbald distinction is vague' (376).

(B) The area of vagueness is coincident with the presence of open concepts (375ff).

(C) Open concepts are those of 'physical constructs which are genetically based on qualitative, ostensive concepts, yet not explicitly definable in terms of the latter' — like 'electron', 'molecule', 'equilibrium', 'temperature' (235).

(D) Expressions are synonymous in varying degrees — as, *inter alia*, is required by the solution to Moore's 'paradox of analysis' (247, 290ff, etc.).

(E) The gradation of synonymy 'entails that analyticity is gradated' (298f).

(F) There are degrees of meaning and entailment (326-60).

(G) The distinction between analytic and synthetic propositions is not at all applicable to propositions involving open concepts (235, 319ff).

(H) There is a sharp distinction between formal entailments or logical truths and material entailments or non-logical truths (371, 377, 431; *but* cf. 133-49).

(I) There are material entailments, i.e. not logically necessary true conditional statements, which have nothing 'gradual':

(a) some which involve no open concepts: 'Bachelors are unmarried';
(b) those whose falsity is inconceivable, i.e. 'there is no conceivable situation in which one might be inclined to affirm' their denials: 'Whatever is red is colored' (371).

(J) Ostensive 'definitions' (my inverted commas) are just as good a species of definitions as explicit definitions like 'bachelor = Def. unmarried man' (249ff).

(K) As a consequence, some propositions are analytically true by ostensive definition:
(a) existential propositions with an ostensively defined predicate: 'Something is blue' (256, 260, 393ff);
(b) propositions expressed by 'the analytic atomic sentence(s) referring to the ostensive standard(s)' (252; on p. 393 such propositions are called '(partial) ostensive rules').

(L) Propositions are entities which have nothing at all to do with linguistic habits or conventions (164ff) and can be defined as the 'possible objects of (cognitive) belief' (173ff, 176, 190).

(M) Necessity is an unanalysable property of propositions (vii, 418ff), *not* of sentences (121f, 125, 413), which is perceived intuitively (129, 388, 399, 416ff).

In the following pages, I shall (1) exhibit some of Pap's fighting techniques, (2) expose some of his basic presuppositions, (3) show how they lead to the above theses, (4) appraise his main arguments, and (5) argue against those presuppositions. At the beginning, my comments will be a mixture of a staff officer's marginal notes and hints to the student for the solution of his exercises.

II. LOGICAL TRUTHS AND ANALYTICITY

3. *Analytic Propositions*

Pap begins with a preliminary examination of the pioneering discussions of analytic and necessary propositions by Leibniz, Kant, Locke and Hume. Pap does make an honest effort at giving Kant a fair hearing, even though on p. 28 he sneers at Kant's formulation of the principle of analytic propositions in terms of subjects and predicates: 'how the statement "all *a* are *b*, but some *a* are not-*b*" is a violation of this principle: where is "subject", where "predicate"?' Now, Kant distinguished simple from compound propositions (e.g. *Critique of Pure Reason*, A, 73ff). Thus, Kant could have said that here we have two subjects and two predicates. By the rules of syllogistics, from Pap's example we can deduce 'Some *b* are not-*b*',

which satisfies Kant's description of a simple self-contradiction: the predicate denies (part of) what the subject asserts. Indeed, Pap fails to notice that for Kant there is nothing fixed in the subject of a proposition. As Kant indicated (op. cit., 153), the subject-predicate distinction is just the form of the several analyses (often possible) of the elements united in the (synthetic) unity of a judgment. E.g. 'Peter is a childless father', 'a childless father is Peter', 'Childless Peter is a father', and 'Peter, a father, is childless' are all analyses of the same proposition; but only in the last two subject and predicate are logically incompatible.

However, Pap is almost correct in construing Kant as aiming at the following definition:

(KA 1) S is analytic if 'with the help of adequate definitions S can be transformed into a synonymous sentence S′ of such a kind that "not-S′" logically entails a contradiction, i.e. a sentence of the form "*p* and not-*p*" ' (96).

This is not quite correct for Kant never laid so much stress on definitions (op. cit., 728ff). Kant could have said, in opposition to Pap's thesis (I), that 'whatever is red is colored' is analytic, for in this judgment 'we remain within a given concept while predicating something of it' (ibid., 154, 718) — even though we have no definitions of 'red' and 'colored' to produce a sentence S′ whose denial entails something of the form '*p* and not-*p*'. Kant was quite certain that a concept 'is always, with regard to its form, something general, something that can serve as rule' (ibid., 106). Thus, it is more accurate to say that Kant was aiming at a partial definition like:

(KA) S is analytic if not-S entails, with the help of definitional rules (if any), an expression of the form 'A and not-A'.

Formula (KA 1) is Pap's working definition of 'analytic' (95ff).

It is the formula he is ostensively attacking when he argues that neither Kant (28f) nor Lewis (106ff) can correctly claim that logical truths (like 'Whatever is AB or A' or 'Everything either has or lacks a given property') are also analytic. In the case of Lewis, however, Pap is willing to let him try a fuller definition:

(LA) 'S is analytic if it is either
(a) a logical principle (i.e. truth) or
(b) is deducible from logical principles with the help of adequate definitions' (106).

Pap's examination of (LA) is important, for it provides us with:

(i) a typical exhibition of Pap's methods of warfare,
(ii) a simple text which shows some of his basic presuppositions at work, and
(iii) the only place where he discusses rather unawares what is otherwise a glaring omission: analytic truth and recursive definitions.

I shall argue that the types of necessary propositions mentioned in thesis (I) are not material, but formal or analytic. Against (LA) Pap charges:

(1) 'But . . . to say that logical principles are analytic would be no more informative than to say that logical principles are logical principles, and Lewis . . . surely intended to make a *significant* statement' (106; my italics; against Kant, p. 29).
(2) For 'the law of double negation: (p) $(p = -p)$ . . . no definitional transformation is now possible that would show equivalence to the law of contradiction': $(p)-(p.-p)$ (107; against Kant, p. 29).
(3) 'If the law of contradiction is the ultimate ground of validity of logical principles, what is its own ground of validity? If it were valid for the same reason as the less "obvious" logical principles which are allegedly "reducible" to it . . . it would be valid because it cannot be denied without being denied; and, surely, even false propositions have that property.' (107f).

4. *Argument (1): Formal Triviality*

(a) Pap never spells out what the wickedness is of making a non-significant statement (in his sense); obviously, (LA) is not a meaningless utterance or 'nonsense' (word used on p. 29). On p. 297 Pap equates 'significant' with 'nontrivial'; on p. 275 he equates 'nontrivial' with 'informative'; most of the time he simply knives a view with a sharp 'trivial'. On p. 294, his example of a significant statement is an empirical statement: 'The morning star = the evening star'. In his glossary Pap defines 'trivially analytic' as 'statement synonymous with a statement of the form "if p and q, then q" or "all AB are B" ' (423); and on p. 288 an example is 'a father is a father'. Thus, Pap's objection (1) is that *one* consequence of (LA) will be synonymous with a statement of a certain form. Thus put, however, the objection does not look at all frightening. It is regrettable that Pap never unveils why such forms are 'untouchables', or why philosophers should steer away from them.

(b) (LA) is certainly nontrivial if Pap is right concerning his solution to the 'paradox of analysis'. He formulates (275ff, 290ff) this 'paradox' as the conflict between the definitional character of equations like

(i) father = male parent

and the nontrivial form of statements like

(ii) Every father is a male.

Pap's *solution* 'is simply that the principle of substitutivity does not hold without restriction for analytic synonyms' (290). Thus, according to Pap, since (i) establishes an analytic synonymy (278, 290) we cannot substitute 'father' for 'male parent' in either (i) or (ii); so, (ii) is *not* synonymous with

(iii) Every male parent is a male,

which is of the trivial form. This simple trick, Pap tells us, corrects a fundamental and pervasive problem of analytic philosophy.

Let us accept that (ii) and (iii) are not synonymous, and for Pap's reasons. But surely (LA) is the 'analysis' of 'analytic' just as (i) is the 'analysis' of 'father'. Hence, rather than charging that

(1) Logical truths are analytic

is trivial, Pap *ought* to point out that it is not trivial, for exactly the same reason for which (ii) is not trivial — because, according to that *solution*, it is *not* synonymous with or as equally informative as

(2) Logical truths are logical truths.

(c) Regardless of Pap's view of definitions, it is false that (LA) makes (1) and (2) synonymous. For one thing, (2) is independent of any definition of 'logical truth' — let alone (LA). But, more importantly, in contrast with (i), (LA (b)) explicitly *forbids* a mutual substitution of the terms 'logically true' and 'analytic'.

5. *Argument (2): Several Tests for Analyticity*

(d) Pap fails to notice that (KA) and (LA (b)) prescribe different tests. Since (KA) is more comprehensive, it is a bit unfair to criticize Kant on the ground that (LA (b)) is inadequate. To be sure, in the case of definitions which furnish rules of substitution, there is no difference between the two tests. Likewise, since, in spite of Pap's thesis (J), ostensive 'definitions' are neither rules of substitution nor rules of inference, they produce no difference between (KA) or (LA).

Pap is surely correct in arguing that 'nothing is simultaneously blue and red all over' does not pass the test included in (LA) (101f, *et al.*; but cf. thesis (K)). However, it can be argued with

great plausibility[1] that to learn a language is to learn how to use words for one or more purposes *as well as* to learn how to draw inferences with those words. Thus, to learn the meanings of the predicates 'colored' and 'extended' is partly to learn to draw inferences which are justified by those meanings. To use Pap's expressions, it may be argued that the meanings of 'colored' and 'extended' are given jointly by ostensive instances and implicit definitions of a sort which are the rules of inference relating 'colored' to 'blue', 'red', 'yellow', etc., to 'extended', 'surface', 'volume', 'plane', etc. True, a person can know the meaning of 'colored' and ignore the meaning of 'extended', and he can know the meaning of 'red' and ignore that of 'colored' — just as he may know the meanings of 'married' and 'male' and ignore the meanings of 'adult' and 'bachelor'. The point is that to know the meanings of some of these words, is *inter alia*, to know what inferences he can draw with them, and whenever he learns a new word of the set he *is* learning what inferential connections it has with other words. Thus, if a person knows the meanings of 'colored' and 'red', he knows that he is to pass from '*x* is red' to '*x* is colored', if need arises.

Clearly, 'whatever is red is colored' cannot, as Pap points out (p. 138), be deduced by means of definitions from logical truths, i.e. it does not pass test (LA). However, if the previous view is not only greatly plausible, but correct, 'everything red is colored' can be shown to satisfy test (KA)[2] — for the only adequate definitions for color predicates are of that implicit type. Thus, the material entailments of thesis (I) turn out to be analytic.

Even though Pap mentions both recursive and implicit definitions, in his arguments when he normally speaks of definition he means rules of substitution like equation (i). This attitude toward definitions is at the bottom of Pap's theses (J) and (K), and prevents him from seeing implicit definitions in the above light. (Cf. Nos. 7-12 below.)

(e) Actually, Pap's objections make use of a test even more stringent than (LA). In objection (2) Pap charges that a logical truth is not 'equivalent to the law of contradiction' and in objection (3) this becomes 'reducible to the law of contradiction'. But, certainly,

(4) All bachelors are unmarried,

[1] It has been most powerfully argued, e.g. by W. S. Sellars in 'Inference and Meaning' (*Mind*, LXII, 1953) and 'Empiricism and the Philosophy of Mind' (*Minnesota Studies in the Philosophy of Science*, vol. I, 1956). These essays are two of the most important contributions of non-Logical Positivists not treated by Pap.

[2] Its negation is 'Something is red, but not colored'. Suppose *w* were such an object; thus, we have '*w* is red, but not colored'. By the implicit rule of inference mentioned above, from the first conjunct we get '*w* is colored'. Thus, '*w* is colored but not colored'.

which satisfies both (KA) and (LA), is not equivalent — much less reducible — to the formula '(p)—(p.—p)' — except in the sense (repudiated by Pap, p. 288) in which logically true propositions are all said to be equivalent.

(f) In developing objection (2) Pap gives another example and speaks of reducing it to 'an instance of the law of contradiction': $(p)-(p.-p)$, where p is a propositional variable (107). Again (4) fails to pass this fourth test. The closest we can bring it is by transforming it into 'It is not true that somebody is an unmarried adult male and fails to be unmarried', whose form is $-(\exists x)\,(fx.gx.hx.-fx)$.

(g) He who holds (LA) must be able to determine independently whether a proposition is a logical truth or not. And to make this harder, Pap denies Lewis (and Kant) the use of the truth-table method on the ground that 'it would not be relevant . . . since this is no *generally effective* test of logical truth' (107, footnote 19; his italics). This is very perplexing, though consistent with his refusal to consider definitions which involve recursions or stages and, therefore, provide no complete means for eliminating the *definiendum* by substitutions. This argument is like: 'Since cars are not generally effective to go everywhere (for instance, you cannot use them to cross the Pacific Ocean or to travel to the Sun) — you cannot use them to go to the next block!' (Yet Pap has no qualms in using himself truth-tables on pp. 124, 183 and 439.)

(h) It is amazing how Pap could fail to realize that according to (LA) there is absolutely no need to transform logical truths into anything in order to show that they are analytic; that it suffices to show that they are logical truths. This is exactly the point of part (a) of (LA).

(i) Pap alleges that neither Lewis nor Kant may 'claim that the principles of logic themselves are analytic *in the same sense* as statements containing descriptive terms essentially (like "all cats are animals")' ((106) my italics; for Kant, p. 29). But what is to count as the *same sense*? This question Pap nowhere asks. Does the sign '+' have the same sense in '10+1' and in '10+100'? In the former case the sign calls for one and only one step in counting or scanning the successors of numbers; in the latter the sign calls for 100 steps. Assuming the customary definition of addition in terms of the successor of a number, you can say that there is a 'deep' sense in which the sign has a different meaning: the former expression can be replaced by 'the successor of 10', whereas the latter cannot. (Cf. objection (1).)

Yet having said all this, one can see a very important sense in which the sign '+' has exactly the same meaning in both expressions: the two (sets of) operations it calls for fall exhaustively under the

same definition or rule. Likewise, sameness of analyticity is compatible with differences between sorts of analytic propositions. Indeed, one such difference is already embodied in (LA) itself. But those propositions that (LA) makes analytic are analytic in exactly the same sense — the one given the word 'analytic' by (LA) itself.

6. *Argument (3): Clearly Remarks (h) and (i) Apply to 3)*

(j) In (3) Pap introduces a fifth test for analyticity: a proposition is analytic which 'cannot be denied without being denied'. This is certainly absurd. But only a great distortion can squeeze it out of (LA) or (KA), as a quick glance at these definitions will show. Here again (cf. (h) above) Pap ignores the recursive character of (LA) and tries to apply part (b) to those cases which, according to (LA), must be explained by part (b).

(k) Pap could have pointed out against (LA) or a similar definition embodying (KA) that it presupposes the concept *deducible* or *entailment*. He could have argued (briefly and directly) that no definitions of 'analytic', 'synonymous', 'self-contradictory', 'entailment', etc., can be given without taking some of these terms as undefined. This conclusion does emerge very slowly towards the end of the book, and it is the basis for his thesis (M) that we just intuit necessities. But it should not be surprising that a given concept must be defined in terms of concepts of its own family. And the ambiguities beclouding the word 'intuition' do make it more confusing to end the discussion of necessary propositions with an unexplained claim that we just intuit necessities.

III. IMPLICIT DEFINITIONS AND OSTENSION

7. *Ostension of Relations*

The view outlined in No. 5(d) holds for propositions like

(5) If x is higher in pitch than y and y is higher in pitch than z, then x is higher in pitch than z.

In learning the meanings of 'pitch' and 'higher than' we learn *both* to associate these words with certain features of experience *and* to distinguish the correct from the incorrect verbal manipulations of those words. Hence, (5) can be shown to be analytic by the implicit rules (of inference) forming its constituting concepts (or words).

Pap, on the contrary, claims that no rules need be involved in our acquisition of those concepts. He argues that we can learn the

meaning of a word, say, 'pitch' which stands for the relation *higher in pitch* just by being simply exposed to it — so that 'the purely descriptive statement "*x* pitches *y*" would then leave it a *logically* open question whether the asserted relation between *x* and *y* is transitive' (215; his italics). Thus, Pap finds in (5) another example of material necessity. And he adduces that 'cold' and 'hot' can only be taught ostensively, too, and that if a child after such instruction says that snow is hot, we would say that he has not grasped the meanings of 'cold' and 'hot' — 'for the reason that the proposition "snow produces cold" is, *on empirical grounds*, so certain that we refuse to countenance the possibility of its disconfirmation' (216).

8. *Ostension and Innate Language*

(a) Pap's observation is correct that if Pierre says that snow is not cold, our reaction, i.e. our *first* hypothesis, will be that he is not using the word 'cold' correctly, or that he does not understand the meaning of 'cold'. It is much more economical to suppose this than it is to conjecture that Pierre is radically different from the rest of humanity. But why can Pap say so confidently that our grounds are here empirical? He just assumes this point, doubtless because in some remote circumstances he would be prepared to formulate a *second* hypothesis were Pierre to insist that snow is not cold. If Pierre had never felt snow, and had always been trusted to make accurate predictions concerning hot and cold objects, snow being the only exception, we might reconsider and decide to engage in important chemical and physiological research; we might discover that Pierre has some peculiar allergy that affects him in such a way that he cannot feel the coldness of snow.

Something like that is what Pap must be saying about his term 'pitching'. But, what sort of experiments or circumstances *might* lead one to conclude that Pierre has made the all-important discovery of three tones *a*, *b*, *c* such that *a* pitches (or is higher in pitch than) *b*, *b* pitches *c*, yet *a* does not pitch *c*?

(b) 'Snow is cold' is empirical because one *can* learn the meaning of 'cold' and later discover that snow is cold. If (5) is empirical, Pierre could in principle learn the meaning of 'pitching' and *later* discover that this relation is transitive. But, how could Pierre discover that? Suppose he has found (5) true for 5 tones, or 8 — at what point is he entitled to assert (5)? He would be in exactly the Humian situation that nothing at all can be used to conjecture that the future will be like the past. He would have no other generalizations or laws that could help — for he

would be dealing with an unanalysable, unrelated relationship.

(c) Pap does notice that the word 'high*er*' does make (5) true on purely formal grounds, but he claims that the purely descriptive core of the relation higher-in-pitch or pitching can be grabbed, as it were, by the mind once they face one another. Just as the mind gets hold of the color red in a personal encounter, so the mind can read off experience the 'pure' qualities and relations. The data of the senses, for the Humian Pap, come labelled and all Pierre has to do in his ostensive learning of pitching and colors is to follow his teacher's reading of the labels. *Later on* he may discover how those qualities and relations are connected, if at all.

I shall not argue here that this theory of acquaintance fails to notice that in order to read off any labels we must be in possession of the language of the labels (or have the concepts in question) — so that we need a previous, recollected learning or an innate language.[3]

(d) Obviously, to teach Pierre the meaning of (Pap's) 'pitching' involves making it clear to him that:

(i) he is to compare *all* tones in that respect,

(ii) he is to *say* that x does not pitch y, if y pitches x, and

(iii) no tone pitches itself.

These three points cannot be left to Pierre to discover in experience. He must be told that that *is* how he is to use the word. (i)-(iii) are an integral part of the lesson. Just as the lesson fails if he is not given examples, the examples make the lesson successful only because Pierre is given (i)-(iii) as tools to pick up the features he is to call 'pitching'. A mind without rules is blind and deaf for everything in experience (*Cr. P.R.*, A. 51). Indeed, in the case of relational terms much more than in the case of color words we must have ostension *cum* implicit rules (or definition). This is as true for asymmetry and irreflexivity, as it is for transitivity.

(e) After some amount of teaching, we may certainly abandon the simple hypothesis that Pierre has *not yet* grasped the meaning of 'higher-in-pitch' — if he continues to insist that a tone a is higher than b, b than c, but that a is not higher than c. But this breaking point of the hypothesis is of a different sort. Here we are confronting no new phenomena, e.g. peculiar allergies; we just give up Pierre: 'Well, he is tone-deaf (or stupid). He cannot *learn* what "higher pitch" means.'

[3] For the most searching examination of theories of acquaintance or givenness, see W. Sellars, 'Empiricism and the Philosophy of Mind', op. cit.

IV. OSTENSIVE DEFINITIONS AND NECESSARY TRUTHS

9. *Ostensive Definitions*

We have seen how Pap (101f, 154f, 224ff, 237ff) reduces ostensive 'definitions' to pure acquaintance in order to argue (thesis (I)) that some material propositions are necessary but not analytic in sense (LA) or (KA). However, he proceeds quite calmly to assert that ostensive 'definitions' are just a species of rules of substitution. This is thesis (K) above. He asserts that 'actually ostensive definitions of descriptive predicates can have the form "let this word be used as a *synonym* for that complex expression", just like verbal definitions . . . I might say 'Let 'blue' be used as a *synonym* (sic) for 'the color of this paint' " '. (249; my italics.)

To many people, this is preposterous; however, Pap has two arguments:

(1) 'It is presupposed, indeed, that the language already contains a word designating a determinable, like color — it might be objected that . . . the ostensive definition is circular. But while it must be granted that the meaning of a determinable predicate would hardly be grasped by a person ignorant of the meaning of *any* determinate predicate falling under it, it does not follow that such understanding presupposes acquaintance with the meanings of all determinate predicates falling under it. Hence, no given ostensive definition of the specified form *need* be circular' (249f; his italics).

(2) 'A more important peculiarity of formalized ostensive definitions is the occurrence of an indicator term ("this") in the *definiens* . . . Unlike verbal definitions, they serve their purpose only if they are uttered in a definite perceptual situation. But it would surely be unreasonable to withhold the title "definition" from these fundamental *semantical rules* on this ground' (250; my italics).

10. *Argument (1)*

(a) Now, Pap does see exactly what is needed for ostensive 'definitions' to be definitions. *If* when we show examples of blue to children, we *want* to teach them that 'blue' is synonymous with 'the color of this (object)', then certainly we do have a definition. Nevertheless, Pap is wrong in supposing that this is what we do when we ordinarily show examples of colored objects in the teaching of color words. Patently, when we learned the meaning of 'blue' we did not learn a rule for the substitution of that word by a synonym. When we

mistook the color of an object, rather than telling us 'No, this is *not* the color of the marble I showed you 27 days ago, the one you let go through the toilet,' our elders simply told us 'No, this is not blue; this *is* green.'

(b) Suppose ostensive 'definitions' were rules of substitution. Then either not *all* ostensive 'definitions' can be rules or there must be other type of language learning which involves no definitions at all in the sense of expressions equating synonyms. Otherwise, we fall into an infinite regress — always presupposing some known words.

(c) Pap's argument (1) seems to be an answer to (b). However, as he acknowledges, an ostensive definition of 'blue' requires the possession of the word 'color', and the possession of 'color' requires the possession of some words like 'red', 'yellow' and 'green'. Yet, Pap argues that 'if "$p, p_2 - p_n$" stands for a set of unanalyzable determinate qualities under a common determinable Q, then "Q" itself is an unanalyzable, or only ostensively definable, term' (155; 138, 248ff). So, to define 'color' ostensively we need a word for a higher determinable — is it 'sensible quality'? Obviously, Pap's proposed formula will require a genus for this, too. Thus, either we cannot have a language at all or we must be born with some innate language. This latter possibility is, as we saw, also required by his theory of acquaintance.

(d) Now, we must possess the words 'red', 'yellow', and 'green' as the basis for our ostensive definition of 'color'. In consequence, we did not acquire them by ostensive definition — for they were learned prior to the determinable 'color'!

11. *Argument (2)*

(e) Since the possession of the word 'this' (and the same goes for the other indicators) is a necessary condition for the possibility of all ostensive definitions, it cannot itself be acquired by ostensive definition. But since all our knowledge and concepts begins with experience, i.e. with ostensions, the word 'this' (perhaps the other indicators as well) is also a part of our basic innate vocabulary.

12. *Analytic by Ostensive Definition*

Thesis (J) is the support of (K). Thus, according to (b)-(d) in No. 10 (K) cannot be defended — for there are no ostensive definitions to be used in the test (KA) or (LA). All that Pap could, *per impossibile*, say is that *some* of the propositions 'Something is blue',

'Something is red', etc., are analytic — but that we cannot tell which, for we do not know whether or not we acquired the words 'red', 'green', and 'yellow' before 'color', so as to have an ostensive definition of 'blue'. Concerning his 'atomic analytic sentences' the problem is more complex. If Pap means ostensive *definitions*, then we have rules of substitution. Thus, 'The marble I gave X last week is blue' could be both analytic and synthetic for the same person (provided that that marble was *one* of the ostensive standards), depending on whether this occurrence of the word 'blue' is to be substituted by 'the color of that marble (the one I gave X last week)'. Similarly, 'Whatever is blue is blue' may be both analytic and synthetic for the one and the same person, if his teachers of color words employed more than one standard for 'blue'. Since we do not keep as relics the standards used in every ostensive definition (assuming Pap's view) we have been submitted to, this amounts to saying that we can probably never be sure what we mean when we say that something is blue. Understandably enough, Pap is unable to offer a single example of his 'atomic analytic propositions', and prefers to limit himself to

(6) 'Something is blue'.

In fact, Pap's discussion of 'analytic by ostensive definition' leads him to incredible tangles. There is not a thin Ariadne's thread that could take us outside the labyrinth of Pap's arguments and views on the matter. Here are a few of his assertions, uncommented, merely to draw a crude outline of such labyrinth:

On the one hand, Pap claims that (5) satisfies not just criterion (KA), but criterion (KA 1) of No. 3, i.e. that its denial 'is *self-contradictory* in the sense that it is transformable into a self-contradiction with the help of the ostensive definition "blue is the color of *this*" ' (260; my italics). He says that both (6) and 'all bachelors are unmarried' satisfy (KA 1). Of course, Pap does not tell us what *this* blue thing is. Yet, if he could, he would be in a position to quote an atomic analytic proposition! In any case, here ostensive definitions are semantical rules (250, 257), so that the analyticity of (6) is semantical — not syntactical or pragmatic (259, 262). And Pap emphasizes the distinction between the semantical meaning of a sentence S, determined by semantical rules, from its pragmatic meaning which 'consists in whatever mental states cause the utterance of S and are caused by the latter in sign interpreters' (362; also 326f).

On the other hand, Pap says that 'analytic', 'defined in terms of synonymy relations which are arbitrarily stipulated, is an elliptical term of pragmatics, short for "analytic for interpreter I" . . . ! "*a* is

blue" is analytic for an interpreter who was taught the meaning of "blue" by the ostensive definition referring to *a*' (266). Then he asserts that the denial of (6) 'Nothing is blue' is *just* a pragmatic contradiction like 'I am not speaking now' (262f). Later on he adds that (6) is *not* semantically, but only pragmatically necessary, in the sense that 'two people who are in agreement about their meaning *cannot* disagree about their *truth*' (395) — but we are not told whether this meaning is pragmatic or semantic.

Besides all that, Pap confesses: 'That the *proposition* expressed by "something is blue" is *contingent* while the proposition expressed by "all bachelors are unmarried" is *necessary*, is of course granted' (261; his italics in 'proposition').

And to make matters more difficult, Pap suggests that the 'puzzle' about the analyticity of (6) 'is perhaps comparable to the puzzle of whether a given fraction is odd or even: "odd" and "even" are defined as contradictory predicates of integers and hence not predicable in the same sense of fractions' (267f).

I shall not try to understand Pap's views on propositions analytic by ostensive definition. Clearly, if 'analytic' now means 'such that the object said to have a certain property was used in teaching the meaning of a word standing for this property' we are a very long distance away from Pap's original definitions of 'analytic': (KA 1) and (LA.(b)) or the ones he offers in his glossary and on pp. 127ff, or with the different, though related tests we discussed in No. 5. The historical issue of the synthetic *a priori* is related to (KA) or (LA), and Pap's new definition is simply irrelevant to it . . . leaving aside the nest of troubles on which his ostensive definitions rest.

V. OSTENSION, MEANING AND THE USE OF LANGUAGE

13. *Some Presuppositions or Inclinations*

We are now acquainted, not only with Pap's techniques of philosophical warfare, but also with several of his important theses and arguments. We have seen two opposed tendencies at work in Pap's theses on ostensive 'definitions':

(U) The (un-Kantian) inclination to regard ostensions as situations in which the mind has, as it were, a (non-linguistic, non-conceptual) grasping of, or reading off of, properties from experience; and

(V) the inclination to regard ostensions as the learning of rules for verbal substitution.

We have also noted that (V) comes, partly, from Pap's having

(X) the inclination to take definitional formulas or rules as rules for verbal substitution.

Pap has (X) in spite of his recognition that recursive definitions are not eliminative (p. 11, footnote 7), and (X) prevents him from appreciating either the role of implicit definitions in ordinary language or the nature of recursive definitions. While the latter are only partially, the former are in no guise at all, rules of substitution.

But there are two other 'forces' driving Pap to his conclusions. From our preceding discussion it can be seen that his arguments for theses (J) and (K) spring from both:

(Y) the inclination to take the assertions made by a person when introducing a concept, either to himself or to a pupil, as part of a definitional formula, and

(Z) the presupposition that there must be *something* which is the meaning of a word.

These 'tendencies' or hidden 'assumptions' also play key roles in Pap's arguments for most of the other theses.

14. *Meaning*

Presupposition (Z) is embodied in the notion of a semantical rule, which connects a word with something extralinguistic, its meaning, 'enabling people to grasp the meaning' (257). However, as one could have expected, Pap does come to see not only that semantical rules of the type ' "dog" means dog' are worse than useless and even question-begging, but also that for words like 'not', 'if' and 'or' even such type of rule is senseless (366). Yet, there must be something which is the meaning of the words. Thus, Pap is led to pragmatic meaning, for 'all we can . . . do is to describe the mental states with which the (ir) use . . . is causally connected' (369). Since such logical words 'are used for formulation of inferences, and so expectations', the concept of entailment turns out rather quickly to be a pragmatic one (370). Since those expectations and causal connections depend on the speaker's habits, dispositions, learning, etc., and may vary from person to person, and from word to word, we are now landed on thesis (F) that entailment allows of degrees and is relative to an interpreter (266f, 326-360, 369ff, etc.). Since entailment and necessity are interdefinable, thesis (F) helps to establish (A).

Actually, however, Pap's arguments do not follow the tidy path the above outline suggests, partly because of his missionary fighting (No. 1 above). That line of argumentation is visible in the shadow of Pap's increasing concentration on pragmatic meaning and oblivion of semantic meaning which starts on p. 238. This process begins with his discussion of the meaning of color terms. At that moment there is an interference between (U) and (V), that drives him to fix his eyes on pragmatic meaning. He has just argued that statements like 'Nothing is both green and red all over' are synthetic *a priori* – for there are no adequate definitions to derive them from logical truths, in accordance with (LA.(b)) (215-29). Here, as we saw, (U) is the protagonist. But then, as we discussed, Pap decides that singular and existential propositions can be analytic. At some moments with that thesis he *seems* to be saying that even the claim that all analytic propositions are *a priori* fails because there are contingent or *a posteriori* analytic propositions. This interpretation does explain some of the incompatible statements quoted in No. 12. In these arguments (V) is the hero. But now trouble appears on the horizon. Since definitions give the meanings of words and ostensive definitions taught to different persons may make use of different ostensive standards, it is difficult to find one and the same thing which *is* the meaning of, say, the word 'blue'. Yet, (Z) requires that there be something which is the meaning.

Moved by such behind-the-scene argument, Pap makes a fateful turn:

> 'It is evident that after the two interpreters learned the meaning of the name, the one by verbal means, the other by ostensive means, the name had the *same meaning* for them, viz. *the disposition to evoke a mental image of the same shade of blue*' (245; my italics).

The verbal means to which Pap refers here is a statement-form about shades of blue analogous to 'orange is the color between, and resulting from a mixture of, yellow and red'. And he tells us that color words are indefinable because:

> 'by the *sense* of "orange" – which allegedly cannot be reproduced by some such description as given – can be meant only the *word's disposition to produce a mental image of the quality*' (239; my italics).

Pap can now say that an assertion about indefinability reduces, then, to the statement of a psychological law which is subject to

empirical test' (240). He can also say that there is no alternative to a '"psychologistic" criterion of analyticity' (242). Clearly, two expressions like 'bachelor' and 'unmarried adult human male', which are synonymous because of a verbal definition, may fail to be synonymous in the new pragmatic sense. And the same holds for 'blue' and 'the color of the marble I lost last Sunday', which according to Pap may be synonymous by ostensive definition. Thus, we can understand how degrees of synonymy can be introduced: a verbal definition and the same sorts of images with equal vividness, a verbal definition with only 85 per cent of common images, some of the images are fussy, etc. – not to mention Pap's fear of his trivially analytic propositions, discussed in No. 4. So, the gates of the expressway to (D), (F) and (E) open before us.

However, it is a bit surprising that Pap had failed to notice that he was abandoning (KA) or (LA) as criteria for analyticity; that he was building on an equivocation of the words 'meaning' and 'analytic'; that there is a great tension between meaning as given by his ostensive definitions and as it is given by the later view. This is the tension we see in operation behind the citations in No. 12. (On p. 380 Pap almost becomes aware of such conflict of his inclinations.)

(Z) is, too, the 'force' behind thesis (L), which at a critical junction Pap contends to be 'in no way different from the entirely uncontroversial claim that beliefs occur' (190). But then, why bother with saying that propositions exist? Why bother with arguing that propositions are more than 'logical constructions' (194-201)?

15. *Language and Scientific Theories*

Pap's inclination (Y) to take assertions made when one is introducing a concept as part of a definitional formula is active in his arguments for the view that there are propositions analytic by ostensive definition. In teaching the meaning of 'blue' we may say to a child 'This (e.g. a blue marble) is blue' and 'That (e.g. a yellow wall) is not blue' or 'The marble you have just put on the table is blue' – but only a person yielding to (Y) can construe these assertions as definitional – let alone as rules of substitution (yielding to (X) at the same time).

(Y) is also pushing Pap's main argument for thesis (G), viz. that the distinction analytic-synthetic does not apply to statements containing theoretical terms. He summarizes:

> 'The most important result . . . it is the laws or theories themselves which, jointly with the rules of correspondence of whatever

> form, determine the meanings of theoretical terms . . . Take, for example, the equation relating the average velocity of the molecules to the absolute temperature of the gas. *Since the temperature is measurable independently* of any assumptions about the microstates of a gas . . . it is therefore wrong to say that the equation is purely analytic, *just an explicit definition* of temperature . . . The equation definitely is "in principle" falsifiable by experience . . . On the other hand, *the equation fixes conceptual meanings of theoretical quantitative terms in the manner of a postulate*, and is in that sense "analytic" ' (321; my emphasis).

This is a good outline of a fashionable picture of scientific theorizing. A theory is *just* a collection of undefined symbols linked by postulates; some of its terms are connected by rules of correspondence to observable data, and that is how it receives empirical meaning. As Pap illustrates, the kinetic theory of gases contains the undefined terms 'molecule', 'number of molecules', 'mass of a molecule', 'velocity of a molecule'; and the defined terms 'instantaneous pressure', 'temperature', 'momentum of a molecule' (318f). Then we have rules of correspondence linking temperature with thermometer readings, pressure with barometer readings, number and mass of molecules with weighings. Clearly, in introducing the theory, we assert the temperature and pressure formulas. But do they fix meanings in the manner in which the postulates of a mathematical system fix the meanings of its undefined terms? The answer will be an immediate 'Yes' only if we yield to (Y). And it will not be possible to resist (Y) if one has already yielded to both (U) and (Z), i.e.

> '(UZ) the more specific inclination to identify the meaning or interpretation of a sign with something observable; with something that can be read off experience.'

Molecules cannot be seen, nor can 'molecule', 'mass of a molecule', etc., 'be operationally definable', i.e. defined in terms of operations and observations (318). Thus, one is led to hold that theoretical terms do not have a real, but only a secondary sort of, meaning fixed by the formulas of the theory. But (UZ) exerts a tremendous pressure: even low-grade meanings must exist. Thus, one is drawn towards the view that the theory is 'partially interpreted' *because* 'not all of the theoretical terms are connected with observables by rules of correspondence' (320). In formulating thesis (G), viz. that the analytic-synthetic distinction does not apply to theoretical constructs,

Pap is merely giving vent to the tension between so-called rules of correspondence and theoretical formulas as the meaning-endowment devices.

Now, in language teaching, we do proffer many utterances which are *not* to be taken as part of the definitional formula of a word. The student must understand the roles of the different utterances in order for his instruction to be complete. E.g. it is a necessary condition for the student's having learned the meaning of 'orange' that he understands that 'Orange is the color resulting from mixing red and yellow' is *not* a rule of universal substitution; that this is only a general directive for the production of instances of orange; that he ought to be prepared to find himself occasionally in a situation such that his mixing pigments or lights or marks may fail to produce orange. To be sure, in this case an explanation will be needed – e.g. that the mixture is not being looked at under normal illumination. In short, it is *not* because that statement is under a psychological curse, which makes it utterly inadequate to produce *ab initio* an image or an experience of some sort (such as we could verify by experiment, 240ff), that the statement is not a definition. It is *because* the statement is not a definition, because in teaching the meaning of the word 'orange' we do not want it to be a definition and make this clear *to* him, that the student needs additional experience to complete his learning.

It is true that many a purely mathematical system has *later* been applied to science, and perhaps often when a scientist is constructing a 'model' he considers a system of uninterpreted signs. But such abstract systems dealt with in the preparation of a theory do not become a theory by means of so-called correspondence rules. The final model becomes a theory by its being linked more intimately to the other concepts we already have, whether scientific or descriptive or ordinary experience. For instance, in Pap's example, the term 'molecule' is itself directly connected with our basic concepts of 'thing', 'quality', 'material object', etc. From the very beginning, a molecule *is* a material object or particle which may be composed of one or more atoms and which is the building block of microscopic objects. Thus was the term introduced by Avogadro, whose scientific training made him impervious to (UZ).

Consequently, (i) the terms 'number', 'mass', 'position', 'velocity', 'translational force', etc., are *at once* related to 'molecule' by means of the previously accepted rules of meaning, e.g. 'momentum = Def. mass × velocity'. Moreover, (ii) molecular masses, numbers, distances, etc., are also at once subject to the previously formulated laws. Thus, 'mass of a molecule', 'velocity of a molecule', etc., are

not uninterpreted symbols of the theory. Indeed, what could be the relevance to science of that part of a theory made up by uninterpreted, meaningless signs?

Of course, the fundamental purpose of the theory is to establish the identity between the temperature and the measure of the translational kinetic energy of the molecules of a gas. This identity is posited by the scientist as a synthetic identity, which can be tested and falsified. It is like the identity of the morning star with the evening star – established by interpretation of data, not by seeing how, e.g. the evening star became the morning star before our eyes.

Likewise, the so-called correspondence rules are synthetic propositions which follow from the basic interpretation of 'molecule' once this term is located in the category of things, and in accordance with (ii), its causal relationships to other terms are explored. The basic interpretation of 'molecule' determines, according to (i), a meaning for 'number of molecules' by making applicable to the number of molecules the rules of ordinary arithmetic. And the fact that we do not count molecules 'beginning "1" and taking after each numeral its successor' (318) does not have the slightest weight in making 'number of molecules' and 'molecule' meaningless or uninterpreted noises. Indeed, the absence of such a 'rule of correspondence' is a consequence of the theory and its formulation requires that those two terms have a previously specified meaning.

In short, Pap's main argument for his thesis that the analytic-synthetic distinction does not apply to statements containing theoretical concepts, is based on a distorted view of the nature of scientific theories. Since this view in its turn rests on the doubtful presuppositions (U), (Y) and (Z), we have here an argument against these presuppositions.

Conclusion. I agree with Pap that it is a mistake to identify the analytic with the *a priori*.[4] My discussion has been intended to show that the difficulties besetting his different attempts at forcing a distinction come from the empiricistic presuppositions to which he stills clings.

Pap's treatise is a very important philosophical book. It contains very good discussions of certain topics, e.g. open concepts and Carnap's reduction sentences (306ff), and good arguments for certain views, e.g. that necessary propositions are not rules (182ff) and are also necessary (119ff). But its great merit consists in the

[4] I have started to discuss the synthetic character of arithmetical propositions (which for Pap (160, 223f, 387f) seem to be analytic) in '"7+5 = 12" as a Synthetic Proposition' forthcoming in *Philosophy and Phenomenological Research*.

formulation of most of the consequences and difficulties of logical empiricism concerning factual knowledge. Yet it is more than a large collection of important arguments. Underneath the bitter polemical tone lies the most provocative record of a sensitive philosopher's torturous dissolving of his own faith while still groping for a new one.

REVIEWS

The Poverty of Historicism by KARL L. POPPER. Routledge & Kegan Paul (London, 1957). Pp. xiv+166. 16*s*.

By 'historicism' Karl R. Popper understands all the 'theories' according to which history is governed by laws or rhythms, structures or trends, on the basis of which it is supposed to be possible to predict history's future course. Comte and Marx, Spengler and Toynbee may in his view be considered as representatives of this 'historicism'; the list, he holds, may be extended at will. These four names alone show that the historicist theories lie far apart in their basic features, basic concepts and basic theses, and that this is the case even where they exhibit such a close relationship as with Spengler and Toynbee. The latter has taken over much from Spengler, including the basic concept of 'culture' (civilization, society). With Spengler this concept is embedded in a metaphysics of the soul of culture (Kulturseele), whose manifestation is in each case a culture; with Toynbee 'civilization' indicates a web of action, which to a certain degree can be comprehended out of itself. The question of the predictability of the course of a culture depends for Spengler largely on the metaphysical assumptions with which he has burdened his concept of culture: his biologistic metaphysics is made possible by his talking of the becoming and ageing of a culture and by doing so as though there were 'homologies' between cultures. It is true that Toynbee regards the typical course of a culture as being not altogether dissimilar from the picture drawn by Spengler; but he derives the right to do so from quite different constructions, which proceed from the mastering or not mastering of tasks that those in action set themselves. Consequently, for a 'refutation of historicism' it is not sufficient to attack the foundations of one of these theories and display their flaws. A refutation of Spengler does not imply a refutation of Toynbee, and vice versa.

There is another circumstance which is bound to render the discussion of historicism unusually difficult: the interest of its proponents is naturally directed towards a historicist representation of history and towards predictions of history's further course, while they are less concerned with a critical clarification of the foundations upon which they erect their constructions. The historicists do not, of course, entrust themselves blindly to that which bears their interpretation of history; yet they do entrust themselves to it with few – for the critical observer, with all too few – doubts regarding its strength. The confirmation with which history provides them is in their eyes evidently so great that it is bound to, and should, convince others too. One can see, of course, here, and in the opposition towards historicist interpretations particularly on the part of those familiar with the historical material, that the plausibility of such interpretations derives more from their foundations, which are submerged in the half-light, than from the evidence that history supplies for the more general theses. At the outset is a vision of history as such; the historicist

attempts to interpret the historical material in detail in the light of this vision; yet his vision seldom becomes a 'theory' in the modern sense: a logically clarified nexus of propositions.

These considerations should make it clear that any critical discussion of historicism as such, and not merely of one of its representatives, must of necessity be very general in treatment: it cannot confine itself to this or that vision of history, but must turn to the concepts with the help of which historicists subsequently rationalize their visions, so far as they feel the need to do this and actually do so. Popper is aware that historicism cannot be conclusively refuted in this manner, and that this merely reveals the flaws in the material with which it builds. He has subjected certain historicist doctrines, in particular those of Marx, to a very detailed critical examination in his book 'The Open Society'; he has sketched a fundamental refutation in its essentials in the preface to 'The Poverty of Historicism' – and this is to be developed in detail in his book *Postcript: After Twenty Years*. This fundamental refutation assumes that human history is strongly influenced by the growth of human knowledge, that it is impossible to determine by rational and scientific methods anything about the progress of scientific knowledge, and that, consequently, the future course of human history cannot be predicted. This would imply the impossibility of a theoretical history analogous to theoretical physics.

Whatever weight one attaches to this argument, it cannot replace the critical analysis of the basic concepts which are characteristic of historicism, nor can it be a substitute for argumentation. To have provided such argumentation is the indisputable merit of Popper's book on the poverty of historicism. Popper distinguishes anti-naturalistic and pro-naturalistic historicist doctrines. Historicism, he holds, is, of course, fundamentally anti-naturalistic, yet it is by no means incompatible with the conception that natural sciences and social sciences contain a common element. What may be described as anti-naturalistic is the conviction of the uselessness of generalizations in the historical field, owing to the fact that what is socially uniform is also produced by man, of the uselessness of large-scale experiments, of the inapplicability of quantitative methods to historical subjects, of the inaccuracy of predictions, of the importance of the appearance of what is new and of unique personalities, and the conviction, furthermore, of the complexity of social events and of the destruction of the objectivity of the statements of the social sciences through the influence which these statements themselves exert. A group in its present condition (and in its future development) becomes intelligible, according to historicism, only when one considers its history. Intuitive understanding, it is held, is the proper method of the social sciences: be it that a social phenomenon is held to be understood when the forces which produce it are known, be it that beyond this an understanding of its 'significance' is called for, be it that in addition an analysis of the underlying, basic 'trends' or tendencies is demanded. Finally, Popper considers a conceptual realism ('essentialism') as characteristic for this kind of historicism.

The pro-naturalistic tendency of historicism, which is present despite

the fundamental anti-naturalism, is closely linked with the latter's conception of the twofold task of the social sciences: a theoretical and an empirical one. Theory, which indeed is alone able to discover general laws, has to explain and predict happenings – and thus far it holds no historicist implications. These arise only when this conception is combined with the mentioned anti-naturalistic convictions. Thus, the conviction that there are historical laws leads, in combination with the conviction of the non-applicability of generalizations in the historical field, to the conclusion that there can exist only *historical* laws that link up consecutive historical periods. The comparison with astronomy suggests itself (and this has indeed often provided the social sciences with a model): Popper draws a parallel between the 'long-term predictions' of astronomy and what he terms 'large-scale predictions'. The latter are long-term predictions whose vagueness is counterbalanced by their reach and their significance – one could perhaps take the periodic activity of sun-spots as an instance. If now one sees the task of the social sciences, as does historicism, in such large-scale predictions (short-term ones are debarred for historicism owing to their necessary vagueness), then it follows that sociology is theoretical history, since its subject matter can, owing to the non-experimental character of sociology, only be taken from history. The latter, conceived as dynamic theory, provides historical laws as a basis for such predictions. These refer for the historicist in the first place to happenings which cannot be prevented, they are, as Popper puts it, 'prophecies' – in contrast to the technological predictions of the experimental sciences. The historicist prophecy can ally itself, however, to a thoroughgoing activism: the law of historical evolution must be known in order to put it consciously into effect. Popper has analysed an example of this elaborately and critically in ch. XXII of his book *The Open Society* (*Marx: Historicist Moral Theory*).

In his critique of anti-naturalistic doctrines of historicism, Popper first of all confronts their methods with what he calls 'piecemeal technology', and then sets in the same way a 'piecemeal social engineering' against a 'holistic' or 'Utopian social engineering', which is often linked with historicism and which is aimed at changing and re-forming the 'whole' of society. Popper's piecemeal method corresponds in the main to the *ceteris paribus* formula of the Viennese school. His criticism of the holistic approach has no unduly difficult task; the latter, however one looks at it, cannot be sustained. What is more interesting than the treatment of these claims – which owing to their political aspects are, of course, of the greatest significance – is the discussion of the question as to whether generalizations can be restricted to historical periods.

We shall return to this in a moment. First of all a short summary will be given of Popper's critique of the pro-naturalistic doctrines of historicism. This critique comprises a critical analysis of John Stuart Mill's theory of the inverse deductive method. Mill, as is well known, had derived this from Comte's theory of history, and his construction may still today be regarded as the purest of such methods. Popper does not direct his critique

so much against the role which Mill assigns to induction – Popper, of course, holds highly critical views on the latter – as against the significance which Mill accords the proof of a historical evolution. The error that Mill commits, according to Popper, is that he takes that to be a 'law of evolution' which is merely a trend, and that he overlooks the fact that trends are dependent upon initial conditions (and thus cannot be considered, as laws are, as being absolute). The elaborate demonstration that trends or tendencies are not laws is among the best parts of the book: evolutions take place in accordance with laws, but not in accordance with a single law; there is no law of evolution, no law of succession.

Historicism seems thus to have been disposed of so thoroughly that it is not easy to see how it can defend itself against Popper's devastating analysis. In any event it would have to reduce its claims to a large extent and drop in particular the claim to be able to predict the 'course of world history'. Then it would no longer be genuine historicism.

Far be it from me to want to defend historicism; nevertheless, we must examine whether Popper, in his critique of what historicism does in fact do, has not followed rather too closely that which the historicist himself regards as his activity. Of course, historicism firmly believes that it has discovered in history the law of history's evolution. That is very strongly emphasized by Comte, Spengler, by Toynbee or whom you will. But when we look at the actual procedure, we see that a schema, derived more or less intuitively from an example or gained in some other way, is impressed upon the rest of history; history is construed in the light of such a schema. This procedure certainly does not justify the making of predictions, although it is used for this purpose. Nevertheless it is very questionable whether, in order to be justified in its application to the past, it would have to be suited to yielding predictions.

In the natural sciences there exists no difference between the means which serve to explain past events and those with the help of which predictions are made. They are the same. In the social sciences the situation is different. In so far as they form theories about actions, they are moving within a field of possibilities in which it is pointless to make 'predictions' after the nature of the natural sciences. A theoretical model (say of economics) cannot be 'falsified' as can a hypothesis of the natural sciences; to this end it would have to be construed as a historical assertion. Sociological theory investigates what occurs when human beings behave in accordance with certain maxims. The question as to the motives from which such maxims are followed or not followed is irrelevant for sociological theory (not for sociological empirical investigations); it belongs to psychology.

I believe that a clear distinction should be made between the theoretical social sciences and psychology, if clarity is to be obtained regarding the former. Thus Popper's 'methodological individualism', which sees the task of sociological theory in the construction and analysis of sociological models in descriptive and nominalistic terms, i.e. in terms of individuals, is only necessary if one includes psychology and conceives those terms as

psychological ones. In this connection Popper stresses the element of rationality, which, he holds, if not present in all, is present in most social situations. Popper calls the construction of models, assuming complete rationality, the 'zero method' – it would in fact be sociological theory if one did not on the contrary have to maintain that behaviour in accordance with the model was the rational form of behaviour. 'Rationality' means in this connection simply the methodical exclusion of what is psychological.

If one allows behaviour in the theoretical model to take place in accordance with certain presupposed maxims – this concept being understood in a sufficiently broad sense[1] – then the latter represent the equivalent of the laws of (theoretical) physics. Then these models make possible an understanding of the corresponding historical events, but do not enable predictions to be made concerning things to come. In order to make predictions in this sense, more is necessary, be it that this 'more' is often tacitly presupposed.

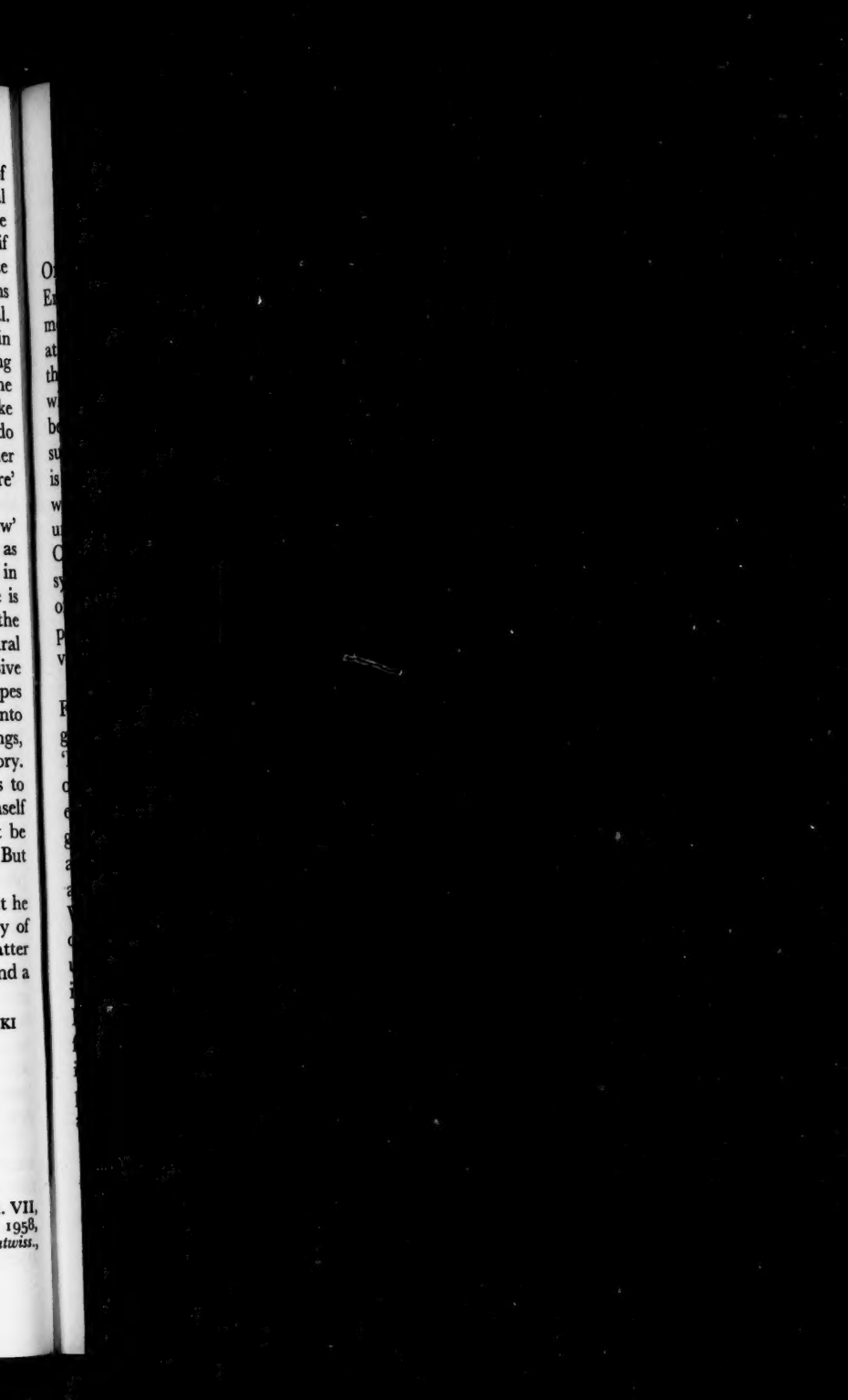
The question as to what in the sphere of history corresponds to the 'law' in the sphere of natural science has really always been so regarded as though it admitted only of the answer: either a 'law' as it is known in the sphere of natural science, or nothing at all. But this alternative is wrong. It is overlooked that in the theoretical social sciences (after the pattern of theoretical economics) the analogy to the laws in the natural sciences is represented by 'maxims'. This changes the picture in a decisive manner. I have already indicated this. It can be said further: One escapes from the fatal alternative of a retreat into psychology or a jump into historicism, in which one lands if one assumes that historical happenings, too, proceed in accordance with 'laws' that are the subject of a theory. Then the question as to the possibility of restricting generalizations to periods also demands an answer differing from that which Popper himself gives. Popper demonstrates quite convincingly that changes cannot be explained by laws that are themselves subject to possible changes. But maxims can change.

Thus Popper seems to me to be more fortunate in disposing of what he terms historicism than he is in his positive treatment of the theory of sociological theory formation. Nevertheless, even with regard to the latter one can find in his book a great deal of thought-provoking material and a host of penetrating comments. He should not be passed by.

J. v. KEMPSKI

(Translated from the German)

[1] See my papers 'Handlung, Maxime und Situation' in *Studium Generale*, 1954, vol. VII, p. 60 et seq.; 'Die Logik der Geisteswissenschaften und die Geschichte', loc. cit., 1958, vol. XI, p. 193 et seq.; 'Über die Einheit der Sozialwissenschaft' in *Z. f. d. ges. Staatwiss.*, 1956, vol. CXII, p. 385 et seq.



2

A SCHOOL FOR PHILOSOPHERS*

By R. M. Hare

Once, while lecturing in Germany some years ago, I was told, by an Englishman who was in a position to know, that in the opinion of most German philosophers philosophy was not studied in England at all. I think this was an exaggeration; but it is certainly true that the subject as studied in England has such a different aspect from what is studied in Germany under the same name, that one might be forgiven for thinking that they are really two quite different subjects. I shall give reasons later on for arguing that this appearance is deceptive; that it is really the same subject studied in two different ways: but the main object of this paper is to describe the conditions under which people learn and study philosophy in Britain, taking Oxford as an illustration.[1] For I think that, given the educational system (we might almost say 'given the administrative arrangements') of the older British universities, it would be well-nigh impossible for philosophy as it is known in Germany to flourish there with any vigour.[2]

My wife has a cousin who studied philosophy under Husserl at Freiburg. I have heard him say that, when he first went to see the great man, Husserl produced about six bound volumes and said: 'Here are my books; come back in a year's time.' He went there, of course, as a graduate student; I do not know whether his experience was typical, or whether in German universities an undergraduate would get as little attention from his teachers as this: but at any rate nothing could be more different from the treatment accorded to the ordinary student starting philosophy at Oxford. We have at Oxford about sixty professional philosophers; the bulk of these, apart from the three professors at the top, and a very few university readers, lecturers, etc., are, like myself, fellows and tutors in one or other of the many colleges which make up the university. Each of us has committed to his charge some twenty or so students from his own college; these are normally studying some other subject in addition to philosophy – for we do not think it healthy to study philosophy in complete isolation; we put it with some other, less abstract subject such as history or economics or psychology. It

* This article is a revised version of a lecture given at a number of German centres in the summer of 1957, under the title *The Study of Philosophy in Great Britain*.

[1] For further remarks on this subject, see my review in *Philosophische Rundschau*, vol. V (1957), p. 269, of two recent surveys of analytical philosophy. The review is in German.

[2] Editorial note: The subject of philosophical studies in Britain and Germany will be taken up again in one of the next issues of *Ratio*.

should, perhaps, be mentioned also that philosophy is studied at Oxford by very large numbers of students. It is not, as at most other places, a small specialist course. Most of my pupils are going to be, not professional philosophers, but businessmen, politicians, schoolmasters, clergymen, lawyers, journalists, civil servants, and, indeed, almost anything but philosophers; and a substantial number of these may be expected to reach the highest ranks of their professions. So the Oxford tutor, if he can teach his pupils how to think more clearly and to the point, can have much more influence on the life of the country in this way than he is likely to achieve by writing books, unless the books are outstandingly successful.

Each of these students goes to his philosophy tutor once a week, either by himself or in the company of one other student, for what is known as a *tutorial*. He will have been told the week before to read certain books or articles and to write an essay on some subject chosen by the tutor to bring out the most important questions raised in the books. At the beginning of the tutorial he will read this essay aloud; this will take about fifteen minutes. If he gets to the end of it without interruption, the rest of the hour will be spent in discussing the subject of the essay. The average tutor's working week during term will consist of from ten to twenty hours spent seeing pupils in this way, and about two hours' public lectures or seminars. The rest of his time, after some part of it has been devoted to practical business in connection with the administration of the college, is his own.

Although we have a far smaller number of professional administrators than most other universities, and although we keep in closer touch with our undergraduates, both administratively and personally, than is common elsewhere, this does not mean that the academic staff are burdened to a higher degree with administrative duties. The situation is rather that, by having the university divided into a large number of colleges of some 200 to 400 students each, and by handling nearly all administrative problems at this elementary level, we prevent our administrative machinery growing to such a portentous size that it requires the services of great numbers of professionals to manage it. For example, for some years I myself looked after the repair and maintenance of my own college buildings. This took no more of my time than I was quite willing to spend on it as a hobby; and besides, it is good for a philosopher to be made to perform feats of mountaineering while inspecting the state of the roofs, and thus to realize that if somebody does not prevent the rain from getting in, the college will eventually disintegrate. In a similar spirit, two of my best-known philosophical colleagues, Mr. Strawson

and Mr. (now Professor) Nowell-Smith, for long periods managed, respectively, the domestic arrangements and the estates and investments of their colleges. All these jobs would be done by professionals at most other universities, because of their centralized administration; but on the whole we prefer it our way, and the jobs are as well done. Certainly I have met the complaint more often elsewhere than at Oxford that 'we spend so much time on administration that we can't do any philosophy'.

Out of term – that is to say for about twenty-eight weeks in the year – we are free to philosophize, or to do anything else that takes our fancy; for our jobs are secure and cannot be taken from us until we reach the age of 67, unless we are guilty of some outrageous personal misconduct. We are under no pressure – beyond that of ambition – to write books or articles. In some other places the staff are in danger of spoiling their chances of promotion, or even further employment, unless they keep up a constant output of published writing; and this naturally inflates the publishers' catalogues. I will not say that in Oxford no philosopher ever writes anything unless he has something to say; but at any rate he cannot claim that he has to do it to earn a living. We regard teaching, not writing, as our main job – what we are paid for.

What, then, is the effect of this system on the student and on his tutor? It is profound. The student is very soon made to realize that everything that he says in an essay has to be justified before a highly skilled and usually merciless critic, not only in respect of its truth, but also in respect of relevance, accuracy, significance and clarity. Anything that is put in to fill in space, or which is ambiguous or vague or pretentious, or which contains more sound than significance, or whose object is anything else but to express genuine thought, is ruthlessly exposed for what it is. The tutor knows that he cannot be sure of getting his pupil to see the truth; for, even if it were not possible in philosophy for there to be sincere differences of opinion about the truth, nobody can see the truth about a philosophical question until he has by his own efforts reached the point from which it is visible. What the tutor can do is to teach his pupil to think effectively; to express his thought clearly to himself and to others; to make distinctions where there are distinctions to be made, and thus avoid unnecessary confusion – and not to use long words (or short ones) without being able to explain what they mean. Enormous stress is laid on style, not in the sense of literary elegance – for this is esteemed of small value – but in the sense of an effective, unambiguous, clear and ordered expression of one's thought, which cannot be achieved unless the thought itself has the same qualities.

The effect of this treatment on the student is what might be expected. But its effect on the tutor himself should not escape notice. He has continually to set an example of the virtues which he is seeking to inculcate. Though he may have been studying a question for twenty years or more, he has hour after hour – sometimes for five hours or even seven in a day – to explain it afresh to a succession of people who are considering it for the first time. For a historian or a language-scholar such a routine might well be called deadening – though for a man whose vocation it is to teach, the task has a continuing and absorbing interest. But for a philosopher this life is just what is required to perfect his understanding of the subject. I can honestly say that I have learnt more from my pupils than I have from books. For is it not true that the really fundamental steps in any philosophical theory are those taken at the outset? It is the *ways in* to philosophy that are the most interesting part of the subject; for it is the course taken at the outset – in the first steps from ordinary ways of speaking to the extraordinary things which philosophers habitually say – that determines the whole of a thinker's theories. For example, how do we find ourselves saying 'Free will is an illusion' or 'Time is unreal' or any other of the things that philosophers say in their books? Under the Oxford system, the professional philosopher is compelled continually to explore these foundations of the subject, to see if they are sound. Not for him the delights of erecting, in solitary thought, imposing edifices – of writing huge volumes which only a handful of people will ever understand. He has to spend his time asking the question 'How can philosophy begin?'; for he has to spend it getting people to philosophize who have probably never done it before.

It will be seen how inimical our method of teaching is to the turning of philosophy into a *mystique*. If a philosopher finds that some philosophical theory cannot be explained to the ordinary person, as represented by his beginner-pupils, that does not necessarily show that there is anything wrong with the theory; but if he knows that it has got to be explained, his efforts to find a fool-proof way of explaining it *may* lead him to reconsider the theory itself, or at any rate to improve its formulation. At the same time, he cannot afford to be too superficial in the interests of simplification; for he has to teach his pupils to *think*, not just to repeat a few catch-phrases; he knows that at the end of three years they will be examined, not by himself, but by two or three of his colleagues who may have quite different opinions from his own; and that the only thing that will count in the candidate's favour is real thought, expressed in a clear and orderly manner. Moreover, to have one's pupils repeat catch-

phrases to one, day after day (especially one's own catch-phrases) would be boring to an unendurable degree – the one thing we all most hate is for our pupils to find out what our own views are and parrot them in their essays. It makes the views sound so silly.

If a pupil survives this ordeal, and wants to become a professional himself, he will settle down to another two years or so devoted entirely to philosophy (though if he is of outstanding ability, he may be offered a job without this preliminary). He will spend his time, not in composing a long thesis or dissertation on some part of the subject, but in finding his way about the subject as a whole. The short thesis that he does is intended only to satisfy the examiners that he can do, and express, a bit of thinking longer than is required for answering examination questions. The theses of successful candidates are often subsequently published in the form of one or two articles in periodicals. The degree for which he is studying, however, and which he hopes will help him in securing employment, is given in the main on the results of a severe written and oral examination. For this examination the man prepares by wide reading and, above all, by talking. He will go most days to seminars and discussions, and will spend as much time as he can arguing on philosophical questions with his contemporaries and with anybody else he can get hold of. When I say *talking* and *arguing*, I mean a co-operative activity. The budding philosopher whose idea of argument is to deliver long monologues, and who does not know how to listen to, and answer, the questions and objections that are put to him (διδόναι καὶ δέχεσθαι λόγον) will find that his company is avoided. Nobody in Oxford can collect a private coterie to listen to him – not even the most distinguished professors. Even quite humble students go to the seminars of professors to attack and dispute, and not to imbibe a doctrine; and this is how the professors themselves like to be treated. And one will often find at one's seminars, not only students, but a number of one's colleagues ready to do battle; if one wishes to find out what are the principal objections to a view which one has temporarily espoused, the quickest way to find out is to give a seminar on the subject – one will discover enough to keep one busy.

When I have read a paper or given a lecture to a German audience, what has frequently happened after the paper has been something like this: each of the audience who wants to say something has made a little speech, lasting some minutes, setting out his point of view on the subject of the paper, or about philosophy in general. After everyone who wants to has had his say, the proceedings have closed with a formal reply by the speaker. There has seldom, in my

experience, been any dialogue or argument – just a succession of different views, none of which, not even the principal speaker's, is subjected to any elenchus. In Oxford it is very different. After a paper has been read, somebody may reply briefly to the paper, or the meeting may be immediately thrown open to discussion. What happens thereafter is rather like what happens in the Socratic dialogues of Plato – or perhaps, since Plato has organized his dialogues in a rather literary way, like the original Socratic discussions on which the dialogues are modelled. Speeches of more than a few sentences are rare; if anybody says more than about five sentences in succession, people begin to look embarrassed. We have instead a series of dialogues of the question-and-answer type, usually between two people, but sometimes with more intervening; and when one of the participants has nothing further to say, or begins to flag, or cannot answer his opponent, the cudgels are taken up by somebody else. When the thing is done properly, which it is not always, there is a great feeling for relevance. To introduce a new topic which does not grow naturally out of the one being discussed (unless that is obviously exhausted) is to risk being politely ignored. And one is not supposed to butt into a dialogue which is already, so to speak, fully manned. The rules of this game are so well understood, among the professionals at any rate, that the office of chairman is purely titular; the chairman joins in the discussion on the same terms as everyone else if he feels like it; otherwise he has nothing to do. The size of the meeting, which may be up to fifty people, does not make much difference to this, since at any one time only a handful of people are actively concerned in the discussion; the rest listen.

Here again, as in all our philosophy, the virtues which we seek are clarity, relevance and brevity – and, of course, at this level, some degree of originality; for these discussions take up so large a part of our time that the obvious moves in the various philosophical chess-games that are in fashion are well known, and can be taken for granted. I say 'games', not because I think philosophy is not a serious matter, but because philosophical arguments, conducted in the way that I have described, have the same sort of objectivity that chess-games have. If you are beaten at chess you are beaten, and it is not to be concealed by any show of words; and in a philosophical discussion of this sort, provided that an unambiguously stated thesis is put forward, objective refutation is possible. Indeed, the whole object of our philosophical training is to teach us to put our theses in a form in which they can be submitted to this test. Ambiguities and evasions and rhetoric, however uplifting, are regarded as the

mark of a philosopher who has not learnt his craft; we prefer professional competence to a superficial brilliance.

The conditions I have described are those obtaining in Oxford. At other universities you will find differences, some of them considerable. But the tone of British philosophy is at present set by Oxford (thirty years ago it was Cambridge); and the sort of philosophy that is done in England now is the result, more than anything else, of the kind of philosophical training which I have been picturing. British philosophers, by and large, will not be bothered with a philosophical thesis which is not stated briefly and in clear terms, such as make it possible to discuss it in the manner I have described; and it is much more highly esteemed if it is the sort of thesis which can be explained without technicalities, if possible in everyday language. We have not taken to mathematical logic with any enthusiasm, though a number of us can do it. The reason for this bias towards everyday language is that our dealings with our pupils have shown us that it is in the passage from everyday language to technical language that all the most vexatious problems of philosophy have their origin. Thus, when we examine a work of mathematical logic, we shall normally take it for granted that the writer has made no errors in the calculations; what we shall observe closely is the process by which he sets up his calculus, often using terms of common speech to do so. And the same may be said of our attitude to any other kind of technical vocabulary.

So on the whole we do not write long or difficult books; if our ideas are understood by our colleagues in the course of verbal discussion, that is enough for us. We write books and articles only to *fix* a thesis so that people will know exactly what they are discussing. You need a book from time to time to hang the discussion on; and when anybody thinks he has got to a point in the discussion when a good statement of a position in which he believes can be written, he writes something. But even in writing it, we know that, however pedantically we might seek to answer all the objections that our colleagues will inevitably think up against our views, we should never succeed; so on the whole we share Plato's attitude towards the written word; it is a *pis aller*, and the best thing to do is to be as brief and clear as possible and answer the objections verbally as they arise in the course of the inevitable discussion. In this way, objections will often reach the author in the course of a few months which do not appear in the periodicals for many years, if ever.

For all our dislike of writing, we in fact contrive to write as much as most other philosophers. But our attitude to our writings, and to those of other people, is different. We do not think it a *duty* to write

books; still less do we think it a duty to read more than a few of the books which others write – for we know that, given our heavy load of teaching, to read more than the essential books would take us away from more important things. Our duty is to discuss philosophy with our colleagues and to teach our pupils to do the same – books and articles are an unconsidered by-product of this process; their content is generally quite familiar from verbal discussion years before they get published. We find out which 'the essential books' are by each reading a very few and telling the others about them.

The result is that, if one wants a book to be read by one's colleagues, it will have to be short, clear and to the point. They will especially like it if, besides reading it themselves, they can give it to their undergraduate students to read; so the more practical and down-to-earth it is the better. The best way to get one's ideas discussed in Oxford (and this is the limit of the ambition of most of us) is to write a book which every student of philosophy in the university will have to read; this means that every person teaching philosophy in the place will have to discuss it several times a week with his pupils, and will have to work out, until he is quite familiar with them, all the arguments that can be brought for, or against, the main points in it. If one can write this sort of book, it will be discussed, not only by the students, but by one's colleagues, who are the ablest collection of philosophers in the country; and that is fame. The certain way to obscurity, on the other hand, is to write long obscure books. Nobody will ever read them.

One of my purposes in saying all this is to give my own explanation of what usually happens on those occasions (unfortunately rare) when a typical Oxford philosopher meets a typical German philosopher in a philosophical discussion. The German philosopher will say something relating to his own philosophical views; the British philosopher will then say that he cannot understand what has been said, and will ask for an elucidation. The German will take this, the first time that it happens to him, for an encouragement, and will go on expounding his views; but he will be disappointed by the reaction. What was desired, it turns out, was not more of the same sort of thing; what the British philosopher wanted was to take just one sentence that the German had uttered – say the first sentence – or perhaps, for a start, just one word in this sentence; and he wanted an explanation given of the way in which this word was being used. One of the sources of this procedure is to be found in a piece of advice given by Wittgenstein:

> The right method of philosophy would be this. To say nothing

> except what can be said . . . *i.e.* something that has nothing to do with philosophy: and then always, when someone else wished to say something metaphysical, to demonstrate to him that he had given no meaning to certain signs in his propositions. (*Tractatus*, 6.53)

Present-day Oxford philosophers do not now take such a destructive view as this; they are perfectly prepared to have metaphysical things said; in fact, as I shall argue, what we spend most of our time in Oxford doing is metaphysics. But we have absorbed Wittgenstein's advice to this extent, that we have the greatest aversion to cutting ourselves off from our base in ordinary speech; we have seen what monstrous philosophical edifices have been erected by slipping, surreptitiously, from the ordinary uses of words to extraordinary uses which are never explained; we spend most of our working time explaining our *own* uses of words to our pupils; and when we find ourselves in the position of pupil, nothing pleases us so much as to sit back and have a German metaphysician explain to us, if he can, how he is going to get his metaphysical system started. And as he is usually unable to do this, the discussion never gets on to what he thinks of as the meat of the theory. This is a great disappointment to him, and leads easily to the accusation that we in Oxford are antagonistic to metaphysics. But actually we do a lot of metaphysics ourselves, only we have an obsession that it must be done rigorously as we understand the word; this means, among other things, that nothing should be said whose meaning cannot be explained. I wish to emphasize that, although we do as a matter of fact in Oxford do metaphysics in plainer language than is fashionable in other places, we by no means insist on people saying nothing that cannot be said in plain language; there is no ban on using words in any way one pleases, provided that a sense, and a precise one, is given to them. We insist only on distinguishing between serious metaphysical inquiry and verbiage disguised as such.

I have used the word 'metaphysics'; and I know that the suggestion that metaphysics is done at Oxford will meet with some incredulity. But this is largely due to a terminological muddle. We *do* metaphysics at Oxford; but we *call* it something else – usually 'logic' in an eccentrically wide sense of the word. In philosophy examinations at Oxford, the paper to which perhaps more attention is paid than to any other in assessing the merits of candidates is called 'Logic'; but it includes many questions which would be called in other places metaphysical. There are, for example, questions about time and space and their nature; about substance; about the

nature of universals, and so on; as well as more narrowly logical questions. The title of the paper is traditional, and dates from long before the rise of the analytical movement; but although this nomenclature may be due to fortuitous historical causes, it serves to draw attention to an age-old difficulty in making a distinction between logic and metaphysics.

Metaphysics began when Socrates refused to answer first-order questions about, for example, what things are right, before he had had a satisfactory answer to second-order questions such as 'What is rightness?' This refusal was called by Plato 'demanding, in the case of everything, a definition (or account) of what-it-is-to-be that thing, or of its essential being (λόγον ἑκάστου λαμβάνειν τῆς οὐσίας)', and was said by him to be the mark of the true dialectical philosopher.[3] Aristotle's *Metaphysics* is centred round a study of this Socratic question, and may be regarded as a third-order inquiry – an inquiry, not into what-it-is-to-be any *particular* kind of thing, but into the very concept *what-it-is-to-be* something (τὸ τί ἦν εἶναί τινι, οὐσία). That is why it is called a study of being *qua* being (τὸ ὂν ᾗ ὄν). In more modern terms, Socrates would not have words used before an account was given of their meaning; Plato said that this attitude was characteristic of the philosopher, and Aristotle tried to give a general account of what it was philosophers were after. At that time, and ever since, the ordinary man has found something trifling about such second- and third-order inquiries: 'Trivial disputes about words!' say the enemies of modern philosophy; 'Abstract and metaphysical questions divorced from reality!' has always been the cry of those who do not like philosophers. Even at the very beginning, Aristophanes attacked Socrates for occupying himself with trivial verbal questions,[4] and no doubt Plato's *Cratylus*, in the eyes of the ordinary man, lent colour to the accusation. We at Oxford, who in England are the chief butt of such attacks, are content to be the successors of Socrates, Plato and Aristotle, the study of whose philosophies remains a large part of our syllabus; we do not think it a trivial matter that people should understand what they are saying.

But it is a great deal easier to say what Oxford philosophers are not, than to say what they are. First of all, the philosophy which we practise bears only a historical relation to the so-called 'Logical Positivism' or 'Logical Empiricism' of the Vienna Circle. It is true that we at Oxford, unlike most German philosophers, find it easy to discuss philosophical questions with those who have remained more

[3] *Republic*, p. 534b.
[4] *Clouds*, 659ff.

faithful to the traditions of Vienna. But the explanation of this is not hard to find. The Vienna Circle made certain apparently very damaging criticisms of the kind of philosophy that was current in their day. In Oxford, and in England generally, we have taken those criticisms seriously, and have, indeed, produced a whole new way of doing philosophy in the course of finding answers to them. We therefore share with the critics a basis of discussion such as neither of us shares with those who have chosen to ignore these important developments and to carry on in their old ways as if nothing had happened. For example, although very few of us would assent to the old 'Verification Theory of Meaning', we have recognized the necessity of developing a comprehensive theory of meaning to take its place,[5] and we therefore find it hard to discuss philosophy with, or to read the books of, people who do not seem to be *worried* about the problem of convincing the sceptic that their philosophical propositions mean something.

It would be incorrect, even, to tie to us, without qualification, the label 'Empiricists' – a label which gets almost automatically affixed to the English by continental philosophers. For we practise a radical methodological scepticism with regard to the meaningfulness or usefulness of *all* these old philosophical labels. An empiricist is a person, presumably, who believes that all knowledge springs from experience. But what is 'knowledge'? What is 'experience'? What is it for knowledge to 'spring from' experience? As soon as we ask ourselves these questions, we are afflicted by doubts, which we seek to resolve by asking ourselves, 'How did we find ourselves using these terms?' So we go back over the ground that philosophy has covered, trying to pick up the trail of significance. The trail undoubtedly started from common language. Plato, for example, had no technical vocabulary to start with; and we cannot understand what he may have meant by a word like *eidos* without studying how, in the dialogues, he introduces the term and gives it a use.[6] But his explanations are always, and have to be, made in terms of ordinary words of Greek common speech; and if we are to understand the philosophy of Plato, or of anybody who takes over Plato's philosophical apparatus, it is absolutely necessary to make sure that, in passing from ordinary uses of words to their technical uses, they have not parted company with sense. In general our reaction, when

[5] A very good introduction to modern discussions about meaning is Professor Ryle's article 'The Theory of Meaning' in *British Philosophy in the Mid-Century*, ed. Mace.

[6] Oxford is one of the few places where ancient philosophy is studied, in Greek, as part of the philosophical curriculum, under tutors who have both an up-to-date philosophical training and a thorough classical education. In most other universities one may study Plato either in Greek but not as a philosopher, or as a philosopher but in translation.

confronted with a piece of philosophical diction, is to demand that the words in it be given a definite and unambiguous use.

This is not to say that for us the terms of common speech (in Greek, English, or any other language) are themselves above suspicion. We are not, as has been often suggested, uncritical worshippers of common speech; nor do we insist that all philosophy must be expressed in common speech – though obviously it would be an advantage if it could be. Apart from the fact that many common words have a philosophical origin (for example 'cause', 'accident' and 'quality'), the most that we can know from the fact that the word has a use in common speech is that it has a use; *what* precisely its use may be, or whether it has more than one use, easily confused with one another, or whether its use is quite different in kind from expressions of apparently similar grammatical form – these are questions which require a very careful investigation of the actual use of expressions. There is no sure way of avoiding being deceived by words, except to pay very careful attention to words – that is one reason why the accusation that 'linguistic philosophers' are likely to take the linguistic form for the philosophical reality is the very reverse of the truth. A few Oxford philosophers are so impressed by these difficulties that they concentrate on a systematic mapping of the categories and conceptual apparatus of common language, whether or not philosophical problems have yet arisen concerning them. These philosophers are far from denying the value of other sorts of philosophical inquiry, but are convinced of the usefulness of such a basic study as a foundation for philosophy. The majority, however, are content to go on investigating those problems which are by common consent called philosophical – but investigating them with at least one eye fixed on the need for knowing, all the time, precisely what one is saying. These two kinds of study are of great assistance to each other; the relation between them is similar to that between geologists who prospect for minerals and those who seek to advance our systematic knowledge of the subject.

It is frequently said of the so-called 'linguistic philosophers' that, through concentrating their attention on words and their meanings, they have abandoned the study of 'the world' or of 'reality'. This accusation reveals a curious misconception about what a *word* is. There is, I suppose, a sense of the word 'word' in which, if I were to cut out of the page of a book a piece of paper carefully chosen as to position, what I should have would be a word. *This* could be studied without studying any more of reality than the piece of inky paper. Perhaps, even, there are certain aspects of linguistic studies which do not involve any consideration of meanings. If so, they have little

to do with philosophy – even 'linguistic philosophy'. But philosophers are concerned with words as having meanings or uses; and these at any rate cannot be studied without seeing how words are used, in concrete situations, to say various things; and, of course, this involves (as is evident from our practice) a careful study of the situations, in order to find out what is being said. Thus, the philosopher who asks what is meant by saying 'I intend to kill him' has to ask himself how this expression would, concretely, be used; and this involves a study of more than pieces of inky paper. A full philosophical examination of language would involve a full examination of everything that can be talked about – and if there are things that cannot be talked about, they cannot in any case become the subject of a philosophical inquiry.

It is sometimes said that if the philosopher studies words, he will get caught in the meshes of his own language – English or whatever it may be. Now, the fact that a thing can be said in any particular language is sufficient proof that it can be said – and this may be of philosophical interest. In so far as the same thing can be exactly translated into some other language, the philosophical results established in terms of the first language will be statable in the second language. How far various sentences in the two languages are equivalent to one another is a philological, not a philosophical question (though it is an interesting philosophical question, what we mean by saying that they are equivalent). It is of interest to the philosopher, however, if some foreign language can be used to say things that cannot be said in his own. For example, the fact that to the English expression 'I could have' there correspond in Latin two expressions, *potui* and *potuissem*, which have different meanings, has been used by Professor Austin to bring out an important and unsuspected ambiguity in the English expression, which has far-reaching implications for the study of the problem of moral responsibility.[7] One can also *coin* expressions if they do not exist in one's own language (though one must be careful to give them a meaning); and this to some extent exempts the philosopher from an exhaustive search for logical specimens in foreign languages. One can *experiment* with language. If one is successful in giving sense to a newly coined form of expression, that, too, proves something. So the philosopher who uses and studies no language but his own is not necessarily the prisoner of that language's conceptual structure. But knowledge of other languages can provide important stimuli to inquiry – stimuli which are certainly not lacking in Oxford.

And so the subject-matter of 'linguistic philosophy' is not, after all,

[7] 'Ifs and Cans', *Proceedings of the British Academy*, vol. XLII (1956), p. 109.

clearly divided from the subject-matters of other sorts of philosophy. 'Linguistic philosophy' is simply philosophy, but done with a proper awareness of the pitfalls of language, which others ignore, and a determination to avoid these pitfalls, both by carefully charting those which have been discovered, and by keeping a good look-out for any uncharted ones that there may be. Nor have philosophers at Oxford any obvious common tenets. If one took any of the well-known controversies in philosophy, such as that between the realists and nominalists, or that between objectivism and subjectivism in ethics, and asked a lot of Oxford philosophers what they thought, they would probably agree in rejecting as inadequate or unclear all of the best-known formulations of either side in these controversies. But this would be likely to be the full extent of their agreement; they would be sure to dispute hotly with one another about the correct way of resolving the problems. The most obvious common characteristic of Oxford philosophers is, indeed, their propensity for arguing with one another – here is one place in the world, at any rate, where people holding opposing views on philosophical problems can meet and understand one another's arguments – and this presupposes, first that Oxford philosophers seldom agree, but secondly that they have sufficient confidence in the rigour and honesty and clarity of each other's thought to hope that argument will not be a waste of time. In fact, what we share are not tenets but standards (which we may or may not live up to, but go on trying); Oxford, that is to say, is not so much a school of philosophy as a school for philosophers.

PHILOSOPHY AND THE ECONOMIC PATTERN

By N. Rotenstreich

I

Though the history of philosophy is, in a way, a history of controversies, today it appears that this is unfortunately no longer the case. There is very little dialogue between the contemporary schools of philosophy, *e.g.* between philosophy with a speculative bias and the various tenets of analysis, logicism, etc. One is witness to a tendency towards fragmentation of the broad traditional scope of philosophical interests in the direction of specialization, not only within one field but also within one school.

In view of this state of philosophical affairs, G. R. G. Mure's recent book *Retreat from Truth*[1] is indeed refreshing. In it we find a philosopher with a well-defined orientation and commitment dealing with a view strongly opposed to his own, exploring its presuppositions and restating his own position by way of criticism and controversy. To be sure, this is a very personal book in spite of the fact that its author formulates his position in traditional, non-personal categories. The reader is confronted with the author's personal experience as a thinker living and writing in an environment considered by him to be totally alien not only to his own view but to philosophy in general, though the protagonists of the opposite view still purport to be philosophers. The protest of *Retreat from Truth* was adumbrated several years ago in Mr. Mure's published broadcast in the form of 'a letter to posterity' which expressed his estrangement and opposition very clearly. Mr. Mure insists upon the negative repercussions of the philosophical state of affairs in his field, going so far as to say that in the last few decades British philosophy has become a major educational disaster. Putting his view rather bluntly, he says: 'if I had an intelligent son coming up to Oxford, I should not regret it if he turned his face away from all the three Honours Schools that include philosophy, even from Greats' (250). This personal taint of the book (if the experience serving as its background is not one's own) makes a critical analysis of it, even for one who is philosophically opposed to Mr. Mure's antagonists, rather difficult. While the conclusions Mr. Mure arrives at by way of analysing the contemporary philosophical *Zeitgeist* in Britain are worthy of our respect, yet it would be preferable, for analysis' sake, to try and extricate his objective views from their context of personal dis-

[1] G. R. G. Mure, *Retreat from Truth*, Oxford, 1958.

appointment, or of zealous adherence to one view, to the exclusion of all antagonistic thought. The main question is whether Mr. Mure's statements, *e.g.* that 'empiricism is an Ersatz philosophy' (vii) or that 'empiricism can only be called philosophical by a courtesy with which it is perhaps almost time to dispense' (20), are valid. Though we, too, would take issue with the central dicta of empiricism, we would not deny it its status as a legitimate school of philosophy, be its mistakes as they may. It is with this critical reservation that we will be chiefly concerned in the following analysis.

II

Mr. Mure's analysis and rejection of empiricism rest upon his theory that empiricism is rooted in an economic pattern of thinking that engenders an 'economic error'; his book is a protest against this error (208). What, then, are those characteristic features of economic activity and thinking which, to Mr. Mure's mind, are entirely out of keeping with legitimate philosophical thinking?

According to Mr. Mure, the following features are characteristic of the economic approach to the world. (*a*) The economic approach is governed by the criterion of efficiency (19). (*b*) It is a view held by the practical agent. (*c*) 'The economic agent is not determined to his end by anything outside his own nature, but he does not freely choose his end; he merely finds his appetites in him' (58). (*d*) The economic approach, while confined to the criterion – or let us say value – of efficiency, falls short in its attempt to deal with values beyond the ken of the economic agent (57), and this mainly because, in terms of the subject involved, the economic activity is related to the value of pleasure: 'Between the economic pleasures and the traditional modes of value-experience lies this main difference. The former are selfish, self-contained and without reference beyond themselves; but in the latter, though differently in each, the singular individual is transcended' (178). Because it adheres to the value of pleasure, the ideal (a negative ideal at that) of the economic activity is the termination of discomfort (120). (*e*) Since not only the values, but also the end of the economic activity are given, and since pleasure is related to given appetites, we are ultimately led to 'The reduction of will to feeling and of reason to servitude' (59).

According to Mr. Mure, these features of economic activity, and especially its estimation of the status of reason, afford sufficient grounds for his assertion of an intimate relationship between the economic approach and philosophical empiricism. To his mind,

empiricism is based on the assumption that there is no world other than the world as it is envisaged by the practical agent (21). Since the economic domain is that of the practical agent, and since empiricism is the world view of such an agent, it appears that practical activity constitutes the *tertium comparationis* between the economic outlook and the empiricist philosophy. This practical approach, according to Mr. Mure, is governed by the criterion of practical success or failure. 'Hume's reduction of knowledge to belief, science to induction, and the conclusions of science . . . to probability, becomes meaningless unless the ultimate cause of belief is taken to be not vivacity or force of habit but practical success or failure . . . Once Hume's economic assumption is made explicit his theory of the understanding becomes an intelligible account of the cognitive situation as the economic agent sees it' (56). What is more, even the logistic outgrowth of empiricism is likewise based on the economic approach: 'formal logic is an instrument designed to improve man's thinking by testing its consistency in a sphere where validity and material truths diverge; and that is, *par excellence*, the sphere of economic thought . . . In economic thinking the emphasis lies on the particular event in the particular context which is economically relevant' (124). It is significant to note that in this last statement what is emphasized as characteristic of economic thinking is not its practical approach to the world but rather its concern with a particular event in a particular context. It seems that what Mr. Mure is implying is that empiricism involves an analytical approach to the world and to our knowledge of it. Thus, the empiricist is interested, *e.g.* in the origins of our ideas, distinguishing the aspect of the source (*i.e.* the impressions) from the aspect of the copy (*i.e.* the ideas), separating the given basis of knowledge from the superstructure (*e.g.* hypotheses, theories) constructed upon it. Here we must take issue with Mr. Mure. For, clearly, economic thinking, when emphasizing a particular event in a particular context, has arrived at its analytic conclusions by way of abstraction; yet abstraction is by no means a practical activity in the usual sense of the word. It may serve practical purposes, as Croce and Mr. Mure following him tend to assume. However, even granting that abstraction may serve as a means to a practical end, this does not imply that it constitutes a practical activity. The most one may say, is that its *raison d'être* lies beyond itself, *i.e.* in the practical objectives served by it. But in itself, abstraction implies precisely a procedure of detachment from the world of the given data in which we intervene through our practical activities. This is to say, in other words, that Mr. Mure's assertion and analysis of an intimate relationship

between economic activity and empiricism is not free of ambiguity, for while on the one hand he considers empiricism to be rooted in a practical approach to the world, on the other he conceives of it as based upon abstraction *serving* practical purposes.

Now, the more fundamental question to be asked is whether Mr. Mure's suggestion of an affinity between the economic outlook and empiricism can be substantiated from both points of view. In other words, we must examine, first, whether his interpretation of the economic activity is supported by what might be called a phenomenology of economics; and second, granting his interpretation of the economic activity, whether empiricism is really an economic approach disguised in philosophical terminology.

What is of interest is that in his presentation of the economic activity, Mr. Mure follows not his real master, Hegel, but rather his intermediate master, Croce. In the 'System of Needs', Hegel stresses the dialectical nature of the economic activity itself. Thus, unlike Mr. Mure, Hegel does not exclude economic activity from the sphere of dialectics, a sphere the most prominent feature of which is self-transcendence. Hegel says: 'The aim here is a satisfaction of subjective particularity, but the universal asserts itself in the bearing which this satisfaction has on the needs of others, and their free arbitrary wills.'[2] This implies that in and through economic activity mutual human relations are established, and that confined particularity simply does not exist. Even granting Mr. Mure that the aim of the economic activity is particular, that is to say, subjective, *i.e.* the satisfaction of strictly personal desires, appetites and pleasures, we are none the less justified in assuming that this aim can be materialized through a network of relations between many human individuals. As involving the establishment of a community, the domain of economic activity cannot be considered totally solipsistic or subjective. To put it another way, while one might grant Croce the utilitarian nature of the economic value, one might, at the same time, question his clear-cut distinction between the utilitarian and moral values.[3] Precisely because it is through economic activity that human needs are satisfied, and because no moral theory can justifiably ignore human needs, a moral conception centred on the position of man in the universe must take the economic and utilitarian aspect of human action into account. While we would certainly object to an over-simplified identification of morality with utilitarianism, yet we cannot elevate moral values to a level entirely

[2] F. W. Hegel, *Philosophy of Right*, translated with Notes by T. M. Knox, Oxford, 1942, par. 189, p. 126.

[3] Benedetto Croce, *Philosophie der Praxis, Oekonomik und Ethik*, Tübingen, 1929.

detached from that of everyday human behaviour which is governed by utilitarian considerations as well. An exhaustive account of human existence must allow room for human needs (including economic ones) and must accept them as essential to man and human society. What is really wrong with utilitarian ethics is its assumption that utility itself is a self-evident, ultimate value that requires no further justification. In other words, utilitarianism puts the cart before the horse, for the utilitarian value must be justified by, and hence cannot serve as justification for, a moral attitude. However, that utility is subordinate to morality does not imply the exclusion of the utilitarian value from the moral field, but on the contrary, the inherence of the former in the latter, though as a partial aspect of it.

Furthermore, one may wonder whether the termination of discomfort can be taken as an adequate rendering of the economic value. Mr. Mure himself mentions the Stoic ideal of ἀϊαραξία, apparently pointing (and rightly so) to the extra cognitive ideal present in modern British philosophy. He himself mentions Mr. Russell's theory of knowledge but perhaps he would have done better to take Wittgenstein's later writings as a clearer example. Wittgenstein certainly pursued the philosophical activity of clarification for the sake of the soul's tranquillity.[4] However, by so doing, he aligned himself not so much with the empiricist, as with the Stoic tradition and was very far indeed from active interference in the course of events that, according to Mr. Mure, characterizes the economic approach to the world. But can ἀπραξία be understood simply as a termination of discomfort and thus as a satisfaction of appetites and desires? In this matter we can agree wholeheartedly with Aristotle: there are no simple pleasures but only those related to specific activities. True, philosophical wonder may be regarded as a sort of discomfort (if one insists on employing this term) and accordingly the philosophical clarification engendered by it may be said to aim at, and serve to overcome discomfort. However, it is not therefore an extension or projection of the inner logic of the economic activity originating in, and aiming at satisfaction of, personal appetites. That philosophical inquiry can by no means be understood as an outgrowth of the economic activity is due to the simple reason that while the ends of the economic activity are given, *i.e.* those prescribed by our appetites, those of the activity of clarification are not. The ends of philosophical activity are intrinsic – what is more, here there is actually no distinction between ends and means,

[4] See on this point the present writer's *On Wittgenstein's View of Philosophy*, included in *Scripta Hierosolymitana*, vol. XI, Jerusalem, 1955.

both being: clarification. Clarification is engendered and accomplished by reason which is at once its initiator, its agent and its justification. If one insists upon linking this activity with discomfort – terminating activities in general – one must be aware of the difference between an activity satisfying externally dictated needs and the activity of clarification, the needs of which are self-created.

Let us now turn to examine Mr. Mure's assertion that empiricism is but the economic approach in disguise. Mr. Mure rightly observes that the empiricist attempts to build up experience by means of simple barter (51) or out of atomic singulars (54). Yet these attempts bear witness precisely to an attitude of an observer who analyses and interprets what he encounters in experience. They cannot justifiably be attributed to the attitude of an economic agent who approaches the world actively by creating goods to satisfy his needs. It appears that Mr. Mure considers the *tertium comparationis* between the empiricist and economic views to be the world outlook presupposed by both – *i.e.* the view that the world is definitely external (77). Though it might be said that the economic agent intervenes in the world as it is given to him, and accordingly takes the world as external to him, it is doubtful whether the same is true of the empiricist. The data analysed by the empiricist do not present themselves *qua* world but *qua* impressions or, let us say, meanings embedded in language. The assumption of an external world is arrived at through an interpretation and not merely through a descriptive analysis of the given data. And precisely because empiricism is based on both an analysis and an interpretation of the given data, it is a legitimate philosophical view. In other words empiricism features the structure characteristic of every philosophical view, to wit, an analysis of what is encountered and an interpretation of its meaning, validity or place in the universe.

It seems that according to Mr. Mure, what is wrong with empiricism (and, in this respect, with Kant too) is that the observer himself, as a constructing subject, remains outside his construction (100). Thus, what Mr. Mure objects to is the very establishment of a position of observation excluded from the total scope of experience and serving the observer as a detached perspective. In other words, what he holds against both empiricism and Kant is the very epistemological consideration which they wrongly assume to be self-sufficient. At this point it becomes necessary to take serious issue with Mr. Mure, who fails to distinguish between a philosophy that considers epistemological questions and epistemological questions alone to be the legitimate philosophical concern, and a view that assumes the relevance of epistemology, and the importance of the

detached position of the spectator, for a comprehensive philosophy which is not concerned with epistemological questions only. In so far as analyses of data and of knowledge constitute extensions of a reflective attitude (and a self-reflective one at that), the attitude of the detached observer cannot be avoided. In a way one may say that to know the world is to know it and not simply to *be it*. Hence, knowledge of, implies detachment from, the world. Accordingly, knowledge of knowledge involves not only detachment from the world but also a detachment from the initial detachment, the latter being implied by the very cognitive attitude. Though empiricism may reject or try to defy the spontaneous reflective attitude, it *malgré lui* maintains it, for empiricism involves analysis and analysis is a manifestation of reflection. Since reflection underlies every philosophical approach and since reflection is manifested, among other activities, in that of analysis, and since analysis is the main tool of empiricism, empiricism even while denying reflection, maintains it. Thus, as a matter of fact, empiricism is a legitimate philosophical view, deserving to be called so not by courtesy but by right. But if this is the case, then Mr. Mure's attack is directed against external reflection, if one may use a Hegelian term, and not against empiricism and the economic pattern of it.

What we are driving at is that: (*a*) economic activity is more 'dialectical' than Mr. Mure would have it, and (*b*) empiricism is more reflective than both it and Mr. Mure would have it. The trouble with Mr. Mure's presentation is that he accepts at face-value empiricism's conception of itself. As a matter of fact, the target for valid and necessary objection is precisely the denial of the idea of reflection as superior to any material content it deals with. What is actually non-philosophical is the rejection of the idea of a spontaneous subject; Mr. Mure, however, seems to philosophize on the presupposition of a to-be-attained identity of subject and object.

To digress for a moment, it is interesting to note that the notion of an external observer which according to Mr. Mure characterizes the empiricist attitude as well as the economic attitude has been pointed out by R. G. Collingwood as characteristic of the historical approach. According to Collingwood, the historical approach to the world is to be criticized because it does not provide for the inclusion of the position of the historian's mind in the scope of the subject matters with which he deals. Philosophy, on the other hand, so Collingwood's argument runs, is a total activity including the mind itself in its encompassing scope. This is true to some extent; the mind dealing with mind indeed belongs to the encompassing philosophical scope. However, the mind as *dealing* must be distinguished from the mind

as dealt with – the former occupying a position of a subject, the latter a position of subject matter (to avoid the term 'object' in this context). Thus, the continuing activity of philosophizing can never be exhausted (or encompassed), not even by philosophy itself, *i.e.* by a given system or doctrine of thought. The philosophizing activity is superior to any and all of its crystallized manifestations and as such can never constitute simply a part of any crystallized doctrine. Yet philosophy *qua* activity presupposes and expresses the position of an observer and cannot become an observed content.

While Mr. Mure rejects the conception of consciousness as a mere spectator (119), he at the same time offers the following analysis of the nature of perception (197): 'He perceives, for instance, a blue patch in a context . . . and both are actual elements of himself *qua percipient* . . . but in perceiving the blue patch he *distinguishes* himself from it.' Now, the question is whether the act of distinguishing the percipient from what he perceives is characteristic of the level of perception alone or whether it is an essential feature of every mental act. The position of being a spectator is in a way an amplification of the distinguished position of the perceiver, that Mr. Mure rightly asserts to be characteristic of perception. Can any mental act, including that of philosophizing, lack the characteristic feature of the elementary mental act of perception? In a different context we are told 'that the primitive wants and what satisfies them comprise an embryo of felt differences, which develops into a finite subject distinguishing himself from what he had felt as an element of himself, and ultimately into a man whose life can have intrinsic value which is capable of judging; in short, the genesis and development of the finite subject in self-distinction from the world is fundamentally logical' (193). Here the distinction between the perceived and the perceiver is enlarged in terms of the distinction between the finite subject and the world. But granting that it is characteristic of finiteness to be distinguished, *i.e.* not all-embracing, the question remains whether any position, synoptic as it may be, can abolish the fundamental distinction between the finite subject and the world with which he deals philosophically. Philosophy is an activity of a finite mind precisely because the philosophizing mind is not the world, and because the philosopher may observe the world from the perspective of his position as a mind, without ultimately becoming identical or even identified with it. The wonder underlying and engendering the philosophical activity is perennially present in philosophy itself, not being confined to its threshold or to its subjective origin. Yet the position of wondering likewise involves a distinction between the wonderer and the world or specific items

thereof which arouse his wonder. A totally adjusted, that is to say non-distinguished being, could not philosophize. What is more, since philosophy evaluates itself, containing in itself the seeds and the call for self-criticism, it maintains within its own scope the position of a spectator. For philosophical criticism of philosophy presupposes the detached position of the philosopher dealing with philosophy, of a mind which while concerning itself with philosophy, yet is not entirely identified with it in its nature as a crystallized doctrine.

III

Though the target of Mr. Mure's criticism is empiricism in general, the bitterness of his criticism is aroused in particular by present-day British philosophy, or, more precisely, by the linguistic trend. According to him, 'the metaphysical backing to the Russellian picture has disappeared' (146). There can be no doubt as to the validity of this statement which is substantiated by the recent remarks of Bertrand Russell himself regarding analytic philosophy and by his objection to Wittgenstein's philosophy. With the rejection of the trans-linguistic realm as a legitimate concern of philosophical analysis, philosophy abandons its metaphysical backing as Mr. Mure has it. Expressing his opinion of present-day British philosophy rather sarcastically, Mr. Mure says that in it 'Thinking dwindles into talking, truth into meaning, imagery into strings of sense data' (163).

But precisely the abolition of the trans-linguistic realm which is characteristic of linguistic philosophy (at least of its radical exponents), as well as its interest in meanings, makes one doubt Mr. Mure's implied conception of its genealogy. Is linguistic philosophy simply an offshoot of empiricism? True, the empiricist attitude is clearly evident in more than one tenet of the analytic linguistic approach, for instance, in its rejection of the various forms of Platonism, or in its evaluation of philosophical terms and categories according to the yardstick of their genuine and elementary meanings, the latter feature being but a variation on the basic theme of empiricism – to wit – that the only legitimate concepts are those backed by the basic acts of awareness, *i.e.* by impressions, percepts or sense data. Yet the direction of modern linguistic philosophy has been determined – in terms of British tradition – by the common-sense philosophy as well, that is to say, by an approach that rejects empiricism. Roughly speaking, the difference between the common-sense philosophy and empiricism is that while empiricism analyses concepts and accepted views, with a view to evaluating them according to their underlying

impressions, the common-sense philosophy adheres to views and convictions, thus setting boundaries to a radical analysis. In so far as modern linguistic philosophy upholds the common-sense views expressed in ordinary language, it cannot be considered to be a continuation of empiricism but must be regarded precisely as an attempt to combine the anti-Platonic criticism of empiricism with common-sense notions and beliefs or views. Views as such are meaningful and not meaningless as are the given, opaque sense data. Accordingly, as linguistic philosophy is concerned with meanings, the level with which it deals is that of common-sense, and not that of mere sense-impressions.

Moreover, when tracing the sources of modern linguistic philosophy, it is necessary to go beyond the bounds of British tradition. Let us therefore briefly examine a few features of linguistic philosophy stemming from sources other than those we have just mentioned. Modern linguistic philosophy arose in response to the need to define and circumscribe the subject matter of philosophy. In other words, with the development of the sciences and their encroachment upon spheres which had hitherto been the domain of philosophy as a world outlook, the latter, as it were, lost its genuine objective kernel and was obliged to search for a domain of its own. In the latter part of the nineteenth century and in the beginning of the twentieth, it was proposed that philosophy be defined as epistemology, that is to say, as a theory of the fundamental concepts employed by the sciences. As resting upon the assumption that the subject matter of philosophy must be found in a sphere other than that proper to the sciences, linguistic philosophy follows the epistemological tradition. On the other hand, it does not follow this trend very far, rejecting it on the grounds (*a*) that it is too narrow, confining philosophical analysis to science and excluding from its domain matters such as everyday life, ordinary interests, ethical expression, etc.; and (*b*) that its procedure of analysing fundamental scientific concepts might lead to the separation of these concepts from their actual context and consequently to the establishment of a Platonic or semi-Platonic conceptual realm. That these objections were justified is witnessed by the development of neo-Kantian epistemology in the direction of, so to speak, a Platonic revival, *i.e.* by its attempt to combine epistemological concern with transcendentalism, that is to say, with the notion of the *a priori*. To avoid this endogenic Platonism of the epistemological approach, linguistic philosophy proposes language instead of concepts as the subject matter of philosophy, understanding language as the sum total of meanings never separated from their actual and factual embodiment in expressions. Philo-

sophy emerges not as a continuation of science but rather as an activity in its own right, no longer concerned with data of the given world, and dealing only with meaningful data, that is to say, with language in its usage or in its game.

Precisely here lies the most important difference between modern linguistic philosophy and the empiricist tradition. The empiricist tradition rested upon the assumption that there is a direct and immediate contact between man and the world and that it is the world in its impact on man which must be examined. Empiricism proposed to be a philosophy of immediacy, proceeding on the assumption that experience consists in immediate awareness of the world. Modern linguistic philosophy, on the other hand, is no longer concerned with the immediate awareness of the world, and perhaps even denies the very possibility of such an awareness. Every awareness of the world occurs within the realm of meanings, *i.e.* within the realm of language, and is thus coloured, as well as mediated, by it. Strangely enough, its implicit or explicit criticism of immediacy places modern linguistic philosophy in the tradition of Hegelian criticism of immediacy which holds that there is no immediate but only the mediated. This is the fundamental source (albeit an indirect one, the direct source being Dewey's philosophy) of Professor Quine's criticism of the dogmas of empiricism.

Modern linguistic philosophy can further be understood as a reaction to Husserl's phenomenology. Husserl's main concern, especially in his later writings, is with meaning: realizing acts, acts through which we encounter the world from the position of consciousness. The consciousness – accomplished encounter of the world – is enmeshed in meanings. The conditions and component factors of the encountering of meanings are, according to Husserl, the intentionality of consciousness on the one hand, and the essential aspects of that which is originally given to consciousness on the other. It is the meeting of intentionality and essences that makes the awareness and realization of meanings possible and actual.

Linguistic philosophy – at least in its extreme manifestation – abandons not only trans-linguistic facts, let alone essences, but also intentionality. For to admit intentionality would amount to an admission of an internal, not-to-be externalized aspect, a modern version of 'the ghost of the machine'. As the ghost of the machine must be abandoned, so must 'the ghost of the facts', *i.e.* the essences. Put positively, the point of linguistic philosophy seems to be that the search for meanings does not imply or require the duplication of the world. There is no need to presuppose either the plane of consciousness or that of essences – because meanings are present, here and now,

realized in language or in linguistic behaviour. Thus, while accepting Husserl's trend in terms of an analysis of meanings, linguistic philosophy no longer asks how the encountering of meanings (in terms of cognitive acts and essences grasped) is possible altogether, because it abandons the very encountering, confining itself to the meanings already present in their expressed aspect, *i.e.* in language.[5] Even from this brief examination of its varied sources it seems that, in all fairness to modern linguistic philosophy, one must not simply dismiss it as an offshoot of empiricism, but must acknowledge its complex, multi-rooted nature.[6]

The objective of this short analysis was not to support linguistic philosophy but to show that the attack against empiricism does not solve the question of the linguistic pretensions current in modern philosophy. Linguistic philosophy has faults of its own and must be attacked on its own grounds. What must be criticized is its assertion of the self-sufficiency of meanings realized in language. What linguistic philosophy deliberately fails to account for, namely consciousness as awareness of meanings (be they even empirically given, as it were, in language), cannot be justifiably ignored. To put it another way, no analysis of meanings is adequate if it disregards the awareness of meanings. If this awareness cannot be disregarded, neither can consciousness as concerned with meanings. Any adequate analysis of meanings must show the awareness of and concern with them to be rooted in, and to be manifestations of, the legitimate detached position of consciousness.

IV

Coming back to Mr. Mure, let us examine a few of his very interesting remarks regarding the nature of self-transcendence and the character of the philosophy related to it. Mr. Mure says that 'the finite mind transcends itself and is not simply singular'. Here, too, the question is whether through self-transcendence of singularity, the finite mind is raised to the level of infinity. Mr. Mure certainly thinks so, his aim being 'to replace the static antithesis of proposition and fact by the self-transcendence of finite into infinite activity' (192). Yet one would rather think that what is implied by acts of

[5] It might be useful to compare the description of Wittgenstein's thought presented in *Ludwig Wittgenstein, A Memoir*, Norman Malcolm, London, 1958, p. 50, with the method of Phenomenology.

[6] An internal evaluation of the sources of 'linguistic philosophy' has been presented in Professor G. Ryle's contribution on *The Theory of Meanings*, included in the volume: *British Philosophy in the Mid-Century*, edited by M. A. Mace, London, 1957.

self-transcendence is the position left behind and not the position which, according to Mr. Mure, we arrive at, *i.e.* infinite activity. With the attainment of infinite activity, the distinction between the spectator and what he observes disappears or, in Hegelian terms, the distinction between subject and object is overcome and their unity is realized in the 'good infinity'. Here again one may point to the paradoxical fact that Mr. Mure, just like modern linguistic philosophy (in so far as the latter is influenced by the Hegelian attitude), wishes to erase this distinction. But while Mr. Mure is in search of an all-embracing activity wherein all distinctions are submerged, modern linguistic philosophy resigns itself to piecemeal activities or data for that, thus avoiding the distinction between the observer, or the non-mythological ghost in the machine, and that which is observed by him. The realm of language can be regarded as an externalized or even behaviouristic realization of the levels of the distinction between the observer and his data. Underlying the Hegelian notion of infinite activity is an over-optimistic conception of a synthesis, where distinctions are ultimately transformed into a unity. Underlying the abandonment, by linguistic philosophy, of the distinction between consciousness realizing meanings and the world, is the pragmatically optimistic assumption that distinctions need not be overcome because for us they do not exist: a synthesis of meanings and facts is simply there and realized in linguistic expressions. Strangely enough, one may say that in this respect linguistic philosophy represents an attempt to abandon the idea of self-transcendence: since there is no need to transcend, there is no possibility of so doing.

We agree wholeheartedly with Mr. Mure that the need to transcend whatever is encountered is an intrinsic trend of philosophical thinking. To the extent that philosophy is interested not only in descriptions but also in justifications, it implies a critical attitude towards, and thus transcendence of, whatever it encounters. However, the question remains whether to go beyond whatever is finite necessarily implies attainment of the infinite. Mr. Mure concludes and insists that the infinite can and must be attained, developing and purportedly proving his point by way of a critical analysis of the British philosophical tradition and its contemporary offshoot.

We, however, can grant him only his premisses. We find that both his optimistic conclusion and his argument in support of it ask for rather more caution.

HUME'S SCEPTICISM WITH REGARD TO DEDUCTIVE REASON

By F. Zabeeh

'Always separate sharply the psychological from the logical, the subjective from the objective' — Frege

Hume, in line with his tendency to regard logic and mathematics as a part of the science of human nature,[1] in the section under the heading 'Of Scepticism with Regard to Reason' (*Treatise*, pp. 180-7) brings some important objections against the very kind of knowledge which previously he allowed to be certain, exact and universal.

Many of Hume's critics have tried to show that his main argument in this section is a *non sequitur*, and others, to interpret him in such a way as to save him from inconsistency. However, few have recognized that Hume's arguments are not only compatible with the general tenor of his polemic against rationalism but also follow logically from his premises.

In this paper I will first present Hume's argument; second, I will endeavour to show the inconclusiveness of his reasons; and third, I will provide evidence to show that the conclusion of his arguments, though incompatible with his assertions concerning the nature of deductive reason, is a logical consequence of his principles. That is, I will argue that Hume's sceptical arguments against reason do indeed perfectly fit into his system. What has no place in the Humian system is his account of the apodictic nature of deductive sciences.

Let us then consider Hume's arguments in the order in which they appear.

[1] In the introduction to the *Treatise*, Hume writes that 'Even Mathematics . . . are in some measure dependent on the science of Man; since they lie under the cognizance of men, and are judged of by their powers and faculties' and 'The sole end of logic is to explain the principles and operations of our reasoning faculty, and the nature of our ideas'.

For Hume, logic is in part an inquiry into the causal operation of 'our reasoning faculty' (Philosophical Psychology), in part consists of rules which an experimental philosopher ought to observe in his search for causal connection (Canons of Induction), and in part consists of principles which a philosopher ought to accept if he wants to talk sense and not nonsense (Principle of Meaning). The inquiry into the formal relation of terms and propositions (Syntactics) is regarded by Hume as trivial and pretended reasoning. Thus, after stating his seven rules for judging causes and effects, he goes on to say; 'Here is all the Logic I think proper to employ . . . Our scholastic headpieces and logicians shew no such superiority above the mere vulgar in their reason and ability, as to give us any inclination to imitate them in delivering a long system of rules and precepts to direct our judgment, in philosophy,' (*T.*, 175).

There is no doubt that Hume had a deep-rooted antagonism toward Aristotelian logic which he associates with the philosophy of the schoolmen; and, I think, in this he shares the view of other classical empiricists, such as Bacon and Locke.

All references to Hume's *Treatise* and *Enquiries* are to Selby Bigge's First Edition.

'In all demonstrative sciences,' he says, 'the rules are certain and infallible.' (Let us remember that the only example which Hume gives of such rules is the rule which one may apply in arithmetic and not in geometry, for obtaining numerical equality.)[2] Though the mathematical rules are certain, in using them we might make mistakes: 'But when we apply them, our fallible and uncertain faculties are very apt to depart from them, and fall into error.' The fact that mathematicians may make a mistake in their deduction is further established by observing that

> There is no Algebraist nor Mathematician so expert in his science, as to place entire confidence in any truth immediately upon his discovery of it, or regard it as any thing, but a mere probability. Every time he runs over his proofs, his confidence encreases; but still more by the approbation of his friends; and is rais'd to its utmost perfection by the universal assent and applauses of the learned world. Now 'tis evident, that this gradual encrease of assurance is nothing but the addition of new probabilities. (*T.*, 180)

Besides the external evidence, such as the approbation of friends and the applause of the learned world, Hume points out another method for gaining confidence in holding that certain mathematical calculations are beyond doubt.

> For 'tis easily possible, by gradually diminishing the numbers, to reduce the longest series of addition to the most simple question, which can be form'd, to an addition of two single numbers; ... Besides, if any single addition were certain, every one wou'd be so, and consequently the whole or total sum; unless the whole can be different from all its parts. (*T.*, 181)

However, Hume says, 'Upon this supposition we shall find it impracticable to shew the precise limits of knowledge and probability.' Though 'Knowledge and probability are of such contrary and disagreeing nature, that they cannot well run insensibly into each other', by using the above method we cannot show in practice the exact limit at which probability ends and knowledge begins. In the

[2] Hume states that algebra and arithmetic are the only exact sciences, since here we have 'a *precise standard*, by which we can judge of the equality and proportion of numbers' (*T.*, 71) and he himself establishes a standard of numerical equality in terms of one to one correlation of units. 'When two numbers are so combin'd, as that the one has always a *unite* answering to every *unite* of the other, we pronounce them equal' (*T.*, 71). This standard of 'Equality', I think, should be regarded among those rules which Hume describes to be infallible. 'In all demonstrative sciences', he says, 'the *rules* are certain and infallible' (*T.*, 18).

final analysis, Hume asserts that since there is no definitive method to show that a certain deduction is valid, 'all knowledge resolves itself into probability'. He rejects his former assertion about the certainty of mathematics by saying that 'I had almost said, that this was certain; but I reflect, that it must reduce *itself*, as well as every other reasoning, and from knowledge degenerate into probability. Since therefore all knowledge resolves itself into probability, and becomes at last of the same nature with that evidence, which we employ in common life' (*T.*, 181), and maintains that, 'As demonstration is subject to the controul of probability, so is probability liable to a new correction by a reflex act of the mind'.

Every judgment concerning 'our preceding judgment, being founded only on probability, must weaken still further our first evidence, must itself be weaken'd by a fourth doubt of the same kind, and so on *ad infinitum*'.

> Let our first belief be never so strong, it must infallibly perish by passing thro' so many new examinations, of which each diminishes somewhat of its force and vigour. When I reflect on the natural fallibility of my judgment, I have less confidence in my opinions, than when I only consider the objects concerning which I reason; and when I proceed still farther, to turn the scrutiny against every successive estimation I make of my faculties, *all the rules of logic require a continual diminution, and at last a total extinction of belief and evidence.* (*T.*, 183)

Criticism of Hume's Scepticism

Hume, throughout the *Treatise* and *Enquiries*, assumes the traditional view held by many other philosophers (Plato, Descartes, Locke, etc.) that there are two kinds of science, namely the deductive and the inductive science. He designates the former by Knowledge or Science strictly so called and the latter by Probability or Moral reasoning. 'Knowledge' is the name of a two-term relation on the one hand, there is a knower and on the other hand there are certain relations among objects which can be known. Thus under some specific conditions, according to Hume, we may properly say, 'If *A* knows that P is Q, then necessarily P is Q', whereas under other conditions it is proper to say, '*A* only *believes* that P is Q', which is compatible with the assertion 'P might not be Q'. The only objects of knowledge are certain relations of ideas, viz. relations which 'depend entirely on the ideas', or what may be called Internal relations or better Analytic relations. There are four kinds of such relations, namely resemblance, contraiety, degrees in quality, and

proportions in quantity or number; however, of these relations only proportions in quantity or number are objects of Knowledge.

The others, since they 'are discoverable at first sight, "by a mere passive admission of the impression" . . . fall more properly under the province of intuition than demonstration' (*T.*, 70). Thus, for Hume, Knowledge in the strict sense is attainable only in the domain of mathematics, where 'the mind can go beyond what is immediately present to the senses to discover . . . the relations of objects' (*T.*, 73) and where 'we can carry on a chain of reasoning' about certain 'invariable relations' (*T.*, 69), viz. proportion in quantity or number 'to any degree of intricacy, and yet preserve a perfect exactness and certainty' (*T.*, 71).

Quite apart and distinct from the domain of knowledge, which is limited to mathematical reasoning, there is, for Hume, a domain which is called Probability, and in this domain fall causal relations, or what we may call External relations or better Synthetic relations. This is the domain with which Hume is primarily concerned, to such an extent that his discussion of the other domain is significantly brief.

In arguing with Hume, first I should state that if we accept his initial position that under certain specific conditions our claim to knowledge is legitimate, then given these conditions, one can maintain, without any hesitation, that one *knows* that 'three times five is equal to half of thirty', and to say that, one really does not know that this equation is true, but only *believes* that it is true, is to violate the rules of the Humian game, which tell us that we shall say 'I know' under certain conditions, and 'I believe' under other conditions. The evidence or ground for the truth of the above equations could be established by using Hume's own standard of equality and finding a one-to-one correspondence between units expressed by the two parts of the equation. The sceptical arguments against the possibility of our ever knowing the validity of certain deductions becomes quite pointless if the sceptic from the outset precludes every condition under which validity of an inference could be ascertained. We can have a guarantee if we allow something to count as a guarantee; but if nothing on earth is going to make us sure that a certain statement is analytic or a certain reasoning is valid, then it is necessarily true that we cannot be sure; the necessity of the sceptical argument is in fact a sure sign of its emptiness.

Of course, we may erect an ideal standard of validity and argue that no argument that we know, as a matter of fact, satisfies our standard. However, there ought to be logically possible conditions which, if fulfilled by anyone, entitles him to the prize of constructing

the first valid argument. Otherwise no one *could* ever win the prize and we might as well keep it for ourselves. For this we have Hume's own sound judgment when he writes that 'It is absurd to talk of any perfection beyond what these faculties can judge of, since the true perfection of any thing consists in its conformity to its standard' (*T.*, 51).

Hume, in the *Enquiries*, asserts that sceptical arguments can be identified by two marks; that '*they admit of no answer and produce no conviction*' (*E.*, 155). With reference to Cartesian doubt: 'antecedent scepticism' which 'recommends a universal doubt, not only of all our former opinions and principles, but also of our very faculties,' Hume says, 'were it ever possible to be attained by any human creature (as it plainly is not) [it] would be entirely incurable' (*E.*, 150). To be sure, Cartesian scepticism would be indeed 'incurable' if we believe *a priori* that none of our faculties could ever be reliable. But the real reason for Hume's assertion that such doubts are 'entirely incurable' or 'admit of no answer' is simply that the sceptic does not allow any standard to be counted as a guarantee. If, on the other hand, there are established standards for telling us which arguments are to be counted as valid and what kind of answer may be accepted as satisfactory, then, when in doubt, we may rely on that standard. Hence, the argument that we sometimes make a mistake in our deduction can do nothing to disturb our conviction that in that particular case we made no mistake.

Hume does not recognize that his own scepticism is entirely incurable or admits of no answer. If he could see the emptiness of his scepticism he would not need to call upon Human Nature to cure him of such philosophical 'melancholy and delirium'.[3]

Suppose now we discard Hume's initial analytic-synthetic dichotomy and with that obliterate his important distinction between deductive and inductive sciences – and accept his final position that in the last analysis 'all knowledge resolves itself into probability and becomes at last of the same nature with that evidence we employ in common life', then I would insist that we should also give up Hume's

[3] Richard H. Popkin, in his article 'David Hume and the Pyrrhonian Controversy' in *The Review of Metaphysics*, vol. VI, No. 1, shows adequately the relation between Hume's scepticism and his theory of natural belief. He writes: 'Pyrrhonism may be irrefutable, but nature makes us believers, and hence Pyrrhonism can be ignored. Hume once again surpasses his predecessors, "Philosophy would render us entirely Pyrrhonian were not nature too strong for it" . . . nature does not logically refute Pyrrhonism, it only makes it unbelievable. Hume then develops his theory of natural belief showing all the beliefs of a factual, moral, metaphysical, theological and mathematical variety that nature compels us to believe.' I argue, further, that Pyrrhonian arguments against possibility of establishing the validity of a demonstration is a logical blunder and hence there is no need for Hume's theory of natural belief in order to account for our belief in the validity of a proof.

famous arguments with regard to the denial of necessary connection (in the causal chain or in the bundles of data which constitute, according to him, our personal identity) and his denial of the logical impossibility of our knowledge of the existence of the external world; since all these arguments rest upon his very distinction between analytic and synthetic judgments and deductive inductive sciences.

The analytic judgment constitutes for Hume that paradigm of knowledge against which all other judgments, such as factual, moral, aesthetic, are examined and declared to be inexact, undemonstrable and non-rational. That is, if we can never know (in the strict sense) that the sun will rise tomorrow, that pleasure is good, or the circle is beautiful, it is because Hume assumes that the objects of knowledge are only certain specific relations of ideas, and that expressions of such relations are only propositions subject to demonstration.

My argument in essence is the restatement of Whitehead's maxim that 'Rejection is a form of apprehension'. This simply means that 'not-P' could be asserted if and only if 'P' has a meaning or a use in a domain of discourse.

Second: Hume in his argument confuses the rules of demonstration with the activities of the inferer. But the rules of demonstration, the relation of implication and logical consequence are independent of contingencies of daily life; thence, the fact that a certain statement is a logical consequence of certain premises has no bearing upon what any person may happen to imagine, think, believe, or know at a certain time. One may say with Leibniz that the relation of deducibility is timeless in that it makes no sense to assign time value to such a relation and say that this relation now holds between the two sentences, but did not hold at some other time.[4]

Now, since it is the absence of the external contingencies which guarantees the incorrigibility of a deduction, Hume's argument on the fallibility of our faculties does not prove that in the last analysis all arguments are inductive and true only until further notice.

Third, I should mention that Hume's argument that no process of checking and testing is self-confirmatory but always self-destructive is a *non sequitur*. Even if we grant that the only way of knowing the validity of certain demonstrations is by gathering empirical evidence, it does not follow that every time we check our evidence the probability of mistakes will increase. On the contrary, in the process of induction, the greater the number of instances of an event observed (provided that no contrary instances have been found or those that have are easily explainable), the less probable it becomes that a new

[4] Rudolph Carnap, *Logical Foundation of Probability*, The University of Chicago Press, 1950, pp. 37-8.

instance of an event will turn out to be negative.[5] In judging that a hypothesis *P* has the probability *lq* with respect to the evidence *e*, we are saying that given *e*, we are justified in believing *P* to the degree *q*, or in betting on *P* with *q* against *l-q*. The degree of probability *lq* is proportionate to the frequency of the appearance of *e*. But as Carnap warns us in talking about the logic of probability the reference to belief or the nature of our faculties should be avoided, because it blurs the important boundary line between logical and psychological concepts.

In reviewing Hume's sceptical argument with regard to reason, I would like to make some important points.

I want to make it clear that this sceptical reasoning, though incompatible with his initial distinction between analytic and synthetic judgment and deductive and inductive science, is itself a logical consequence of his psychologism. We find that for Hume the analytic-synthetic distinction is established, in the absence of syntactical rules and propositions,[6] with reference to a psychological phenomenon described as conceivability of thinking of a certain arrangement of complex ideas or the inconceivability of constructing such a series in our mind. Though Hume sometimes makes a distinction between the ontological status of inseparable relations and the psychological fact of our belief concerning such relations, he cannot and does not keep these different issues separate, and ultimately reduces the necessity of reason to the contingencies of

[5] D. G. C. MacNabb recasts Hume's argument in the following manner:

'We establish, say, a 99/100 probability for a certain proposition; remembering that we are always liable to error we examine the probability of our being right in this estimate; we find it is, say, 999/1000. The probability of the original proposition sinks to the product of 99/100 and 999/1000, *i.e.* 98901/100000. Since we are liable to be mistaken in any calculation or inference, this process must be repeated *ad infinitum* and each time the probability will diminish.'

MacNabb answers Hume by saying:

'Now it seems evident to common sense that the second-order judgment that I am very likely, though not certain, to be correct in some first-order judgment increases rather than diminishes the authority of that first-order judgment ... the higher-order judgments, being based on a much wider range of experiments, in some cases on our whole experience of the workings of the human mind and the progress of science, may give more in added weight to the evidence, than they take away by diminishing the probability fraction.' *David Hume, His Theory of Knowledge and Morality*, Hutchinson's University Library, pp. 100-1.

[6] Hume, in criticizing syllogistic logic, argues that the division of 'the acts of understanding into conception, judgment and reasoning' is a remarkable error 'inculcated in the schools'. He wants to do away with the notion of subject-predicate proposition in favour of belief and ideas.

But in the *Enquiries* dropping his cumbersome distinction between invariable and variable relations, he speaks of different kinds of 'Propositions' viz. those which state *Relations of Ideas* (analytic) and those which express *Matters of Fact*. However, as Laird maintains, 'this tamer view is difficult to reconcile with Hume's phenomenalism'. John Laird, *Hume's Philosophy of Human Nature*, p. 53. 'Phenomenalism', according to Laird, 'is the doctrine that all our knowledge, all our belief, and all our conjectures begin and end with appearances; that we cannot go behind or beyond these; and that we should not try to do so.' Ibid., p. 25.

matters of fact. He cannot keep his own distinctions separate, since, for him, there cannot be anything besides impressions and ideas. That is why, I think, Hume in one place defines 'Knowledge' as 'the assurance arising from the comparison of ideas' (*T.*, 124), and in another place reduces knowledge to probability, and on another occasion says that the necessity which makes two times two equal to four lies only in the act of the understanding, and yet in another part writes that 'According to my system, *all reasonings* are nothing but the effects of custom; and custom has no influence, but by inlivening the imagination, and giving us a strong conception of any object' (*T.*, 149).

But if logical necessity lies only in the act of the understanding, or in the mind of the inferer, as Hume implies (where else could it be after all!) and if the ultimate ground for what makes a judgment analytic or synthetic is our ability or inability to conceive certain arrangements of ideas, then Hume is right in asserting that necessities of reason are as suspect of universality and exactness as the contingencies of matters of fact. It follows that Hume's scepticism with regard to demonstrative reason is the outcome of his own psychologism.

I maintain also that Hume's stand on the issue of scepticism with regard to reason is compatible with many of Hume's anti-rationalistic assertions. The reduction of all reasoning to factual reasoning, and the justification of causal reasoning in terms of habits of association is quite in line with Hume's initial standpoint. We find, for example, that in *An Abstract* he says that '*Almost all reasoning* is there [in the Treatise] reduced to experience; and the belief which attends experience is explain'd to be nothing but a peculiar sentiment'. In the *Enquiries*, also, despite his sharper distinction between analytic and synthetic judgments, in a long footnote which appears after the distinction he makes between reason employed in geometrical demonstration and reason as employed in causal inferences, he writes:

> Nothing is more useful than for writers, even, on *moral*, *political*, or *physical* subjects, to distinguish between *reason* and *experience*, and to suppose, that these species of argumentation are entirely different from each other. The former are taken for the mere result of our intellectual faculties, which, by considering *a priori* the nature of things, and examining the effects, that must follow from their operation, establish particular principles of science and philosophy . . .
>
> *But notwithstanding that this distinction be thus universally received, both in the active speculative scenes of life, I shall not scruple to pronounce, that it is, at bottom, erroneous, at least superficial.* (*E.*, 43-4)

Finally I should like to state that though Hume, unlike Mill who in strict adherence to phenomenalism asserts that 'the science of number is thus no exception to the conclusion we previously arrived at, that the processes even of the deductive sciences, are altogether inductive, and that their first principles are generalizations from experience',[7] believes that mathematical sciences are analytic,[8] and on the basis of such beliefs endeavours to make a safe place in his system for the mathematical sciences by distinction between two kinds of relations, those relations which are dependent on their relata, and those which are not (*Treatise*) or between Relations of Ideas and Matters of Fact (*Enquiries*), he neither explains the sup-

[7] John Stuart Mill, *A System of Logic*, 8th edition, 1872, vol. I, p. 298.

[8] Though Hume believes that mathematical sciences are analytic, he did not believe that principles of mathematics are not generalization from experience. A phenomenalist might maintain that all the terms which constitute a given sentence denote sense-data, and yet argue that the sentence itself is analytic or true by definition.

Kant, in the *Prolegomena*, states that Hume would not submit 'the axioms of pure mathematics to experience'. But Hume did submit the principles of mathematics to experience (at least with regard to geometry) without falling, *prima facie*, subject to Kant's alternative, *i.e.* 'he would have to take mathematics as also synthetic . . . and he had too much insight to do this'. Kant, *Critique of Pure Reason*, p. 724. Translated by Max Muller, Macmillan Company, 2nd edition.

Kant's observation that Hume had too much insight to submit the axioms of pure mathematics to experience may be due to Hume's ambiguous statements in the *Enquiries* which produced confusions among critics, viz.,

> That the square of the hypothenuse is equal to the square of the two sides, is a proposition which expresses a relation between these figures. That three times five is equal to the half of thirty, expresses a relation between these numbers. Propositions of this kind are discoverable by the mere operation of thought, without dependence on what is anywhere existent in the universe. Though there never were a circle or triangle in nature, the truths demonstrated by Euclid would forever retain their certainty and evidence.

By making this assertion, I think, Hume does not want to imply that 'though there never were a circle or triangle even for *Euclid*' the geometrical truths discovered by him would for ever retain their certainty. But that once Euvlid observed a geometrical figure and discovered certain relations, 'the conclusions which [he] draws from considering one circle are the same which [he] would form upon surveying all the circles in the universe' (the statement which appears also in the same book).

This is indeed a difficult position to maintain if we refuse, as Hume does, to distinguish between pure and applied geometry. Suppose in observing a circle we discover that a point in the circumference of that circle is not exactly the same distance from the centre as the rest of the points in the circumference of the same circle: Is that peculiar relation true about all circles? But if someone objects that this particular circle is not a true circle, he already presupposes a definition of a circle which is not necessarily a description of any observed circle. We may object, for example, that, on the basis of Hume's account, why should we not hold, seeing that a loaf of bread nourishes us, that all bread has such a property! If the inference from one statement concerning observed events to another statement concerning future events is not a deductive inference but always probable and 'true' until further notice, why should Hume hold that in case of mathematical relations this inference is deductive?

In answer to these objections, no doubt Hume would resort to his principle of analyticity. He would say that to assert the antecedent and to deny the consequent of the statement: 'If something is triangle, then the sum total of the internal angles of that thing is equal to two right angles' is to hold a 'demonstrably false' statement. But here we observe that Hume's reason for calling such an assertion 'demonstrably false' is not based on measuring the angles of a particular triangle, but is based on accepting certain axioms, definitions and rules of inference.

posed impressions corresponding to arithmetical ideas, nor can he account for the apodictic nature of mathematical truths in his framework of 'internal and perishing impressions' which are 'conjoined' by links of association.

Following Hume's recommendation, if we search for the impressions of numbers (assuming that there are no numbers but integers) in order to clarify our ideas, we find not only that there are no such impressions but also that Hume does not even provide us with an ostensive definition of number, in the same way that he gives us an ostensive definition of something which approaches the Euclidian definition of geometrical point, i.e. *minimum visibilium*. Likewise, any search for the impressions of logical connections whose appearance between our 'loose ideas', according to Hume, makes our mind 'necessarily determined to conceive [them] in a certain manner' is in vain.[9]

Therefore I cannot help but agree with Kant's statement that the empiricist position of Hume is incompatible with the necessity and universality of mathematical sciences.[10]

[9] Hume, in one of his letters, tacitly admits his ignorance with regard to mathematical sciences.

'I sent them [the four dissertations, the fourth referred to as *Some Considerations previous to Geometry*, also *On the Metaphysical Principles of Geometry*] up to Mr. Millar [his publisher]; but before the last was printed, I happened to meet with Lord Stanhope ['the best mathematician in England of his day'] . . . and he convinced me, that either there was some Defect in the Argument or in its perspicuity; I forget which, and I wrote to Mr. Millar, that I would not print that Essay.' E. C. Mossner, *The Life of David Hume*, 1954, p. 321.

[10] 'This empirical deduction, which was adopted by both philosophers [Locke and Hume], can not be reconciled with the reality of our scientific knowledge *a priori*, namely, pure mathematics . . .' Kant, op. cit., p. 742. By 'the empirical position' Kant does not mean 'Empiricism' in its modern version defined by Russell as the assertion: 'All synthetic knowledge is based on experience', *Human Knowledge*, but rather such assertions as Locke's that in experience 'All our knowledge is founded' or Berkeley's 'Language and knowledge are all about ideas, words stand for nothing else' or Hume's 'that all our ideas are copy'd from our impressions'.

INTUITION AND THOUGHT

By Kurt Reidemeister

The question of what is the object of mathematics and of mathematical knowledge leads directly to the controversial question whether the intuition of space forms an essential foundation of geometrical knowledge. In order to get to the heart of the controversy, I shall begin by setting out some theses on mathematics:

1. The driving force of the evolution of mathematics since the Greeks has been the feeling for what has to be proved, *i.e.* the discovery of connections that can be transformed by conceptual construction into provable connections.

1.1. Thus mathematical intuition, *i.e.* the force steering the evolution, 'sees' unproved connections as potentially provable ones. Mathematical invention is the invention of concepts which make possible the performance of the proof. Mathematical investigation consists of the trying out of constructions for the production of proofs. The results are the produced proofs.

2. From its Greek origins to the present day, mathematics has been a unified, systematically progressing expression of the same analysing, constructing and proving process of thinking.

2.1. This evolution is not merely expansive but consists essentially of the simplification of proofs. Simple proofs are beautiful and fecund. Beautiful with regard to the achieved simplification, fecund with regard to their applicability for the purpose of extending mathematics.

If one bears these theses in mind (whether they be valid or not), the following becomes immediately apparent: the meaning of the controversy whether the intuition of space is a source of geometrical knowledge is the controversy about the meaning of proving. What is given to intuition can certainly be described, but not proved. When one maintains that the intuition of space is a foundation of knowledge, one asserts of necessity that mathematics proceeding by proof is a chimera which spreads itself over mathematical objects. This was declared quite openly by Schopenhauer. He called Euclid's proof of the theorem of Pythagoras a mouse-trap proof, a piece of legerdemain providing no insight; insight is produced only through intuition. But the same is asserted by all those who, for the sake of their theory of knowledge, construe Euclidian geometry as being knowledge of the essence of space and maintain that there is an essential difference between antique and modern mathematics: the

real target of their attack is the performance of proving, the importance of which they seek to diminish by declaring it unessential. In doing so, however, they misunderstand antique mathematics. The more profound ideas of antique mathematics, *e.g.* those presented in Euclid's *Book X* and referred to by Plato in his dialogue *Theaetetus* and questions such as the Delian problem of duplicating the cube (which is ascribed to Plato, probably because Eratosthenes makes Plato mention it in the dialogue *Platonicos*) are completely disregarded. How naturally on the other hand the famous achievement of the young Gauss, the construction of the seventeen-sided polygon, fits into true antique thought.

But – our opponent might continue – what then is mathematics according to the system of thought and knowledge? Agreed, mathematics proceeds logically, but is it then not more than logic? Are not all the propositions of logic tautological? Is pure mathematics not to be anything more than a great tautology? And how is space, which I perceive, to be described by tautologies?

Answer: The conception of logic in this argument is determined by the Aristotelian doctrine of syllogisms which refer to individual statements. However, the object of mathematical thinking is to be found in systems of statements. Such systems have a structure. The simple concepts, which we at once apprehend as structurized, are the relations subsisting between two or more objects. The simplest relation is equality, and the well-known proposition 'if two magnitudes are equal to a third, then they are equal to each other' expresses a structural property of this relation. Mathematics investigates structures of systems of statements, in particular of those built up of relations. And the mathematician loves space, or to be precise, the processes of geometrical construction, for example the drawing of straight lines with a ruler and of circles with a pair of compasses, because they allow a view into a structure and thus open up a way into the realm of pure structures.

Thus there is after all an intuitive space and a knowledge of intuitive space. What connection has this intuitive knowledge with mathematics if it is no longer to be the foundation of Euclidian geometry?

Answer: Intuition cannot supply the principles of Euclid's geometry because intuition does not enable us to recognize the logical processes that are utilized in geometry as applicable. Only when one regards mathematics as a science proceeding by proof on the one hand and considers the manifoldness of logical structures on the other hand does it become clear that the task of accurately describing the spatially intuitive has up to now been obstructed by rational prejudices and

has not yet been attempted for its own sake. However, it soon becomes apparent that there are branches of pure geometry which do in fact admit of an intuitive interpretation and, in a new manner, bring us closer to the intuitive objects, *e.g.* combinatorial topology.[1]

In the situation as it is today, the question of intuition as a source of geometrical knowledge is not dealt with in the so-called 'philosophy of mathematics' nor in 'mathematical foundational research', and that for very good reasons. The philosophy of mathematics, in effect, regards mathematics as a science that proceeds by proof and endeavours in principle to understand and confirm the certainty of mathematical proofs. The difficulties encountered by this endeavour, however, as can be demonstrated, do not lie in the structure of geometry, and it is, consequently, at least not probable that the intuition of space could make a contribution towards surmounting these fundamental difficulties.

A standpoint from which facts given to intuition can be regarded in a way going beyond mathematics is provided by the epistemological position established by Ludwig Wittgenstein in his *Philosophical Investigations*.[2] I would recall to mind that Wittgenstein later departed from the conceptions which he set out in his famous *Tractatus logico-philosophicus* and which so decisively influenced the Viennese Group and thus the development of Posivitism, and that in his search for the significance of simpler statements he also came to recognize the significance of non-exact statements. Such a standpoint, which for the sake of accuracy opens the view onto the significance of unexact statements, is indispensable for an unbiased investigation of spatial intuition. Wittgenstein himself, however, did not overcome his scepticism towards mathematics and held that mathematics for dogmatic reasons excludes itself *a priori* from the sphere of significant statements. The combinatorial topology of polygons shows, however, that this is not the case, and thus there is opened up here a wide field for the investigation of what is given to intuition, an investigation that could be extended to the relations between mathematics and art.

Finally, as far as real space is concerned, the role of mathematics in describing it can only be understood when it is previously known what mathematics is. From the analysis of pure mathematics, which we gave, it follows what the performance of mathematics is in a description: nothing other than the elucidation of the formal structure of the described properties and data – of course, at all times within the bounds of accuracy set by the material.

[1] Compare in this connection K. Reidemeister, *Space and Number*, in particular Chapter V, where from Zenon's paradoxes, and Aristotle's attitude to them, a 'paradox of intuition' is constructed and where then the intuitive topology in the net of squares is developed.

[2] Oxford, 1953.

The applicability of mathematics in the description of nature is an empirical discovery, and that goes too for real space, which is after all an object of physical experience. And if it then turns out that some of our everyday perceptions of spatial situations correspond to the physical facts, then that too is but an empirical result and does not give to spatial perception or spatial intuition the significance Kant had assigned to them.[3]

(Translated from the German)

[3] See K. Reidemeister, *Mathematics and Theory of Knowledge*, Studium Generale, 11th year, p. 99, and *Raum und Zahl*, chap. III.

WORKS OF ART AND PHYSICAL REALITY*

By H. Khatchadourian

The object of the present paper is more limited than the title might indicate. It consists in an attempt to analyse as much as space permits some ordinary uses of the term 'work of art'. Stated differently and more precisely, we are here concerned with the attempt to discover what sorts of things works of art are: whether they are percepts, physical objects, ideal or imaginary objects and so on. Part of what we might understand by the question 'What sort of thing is a work of art?' is the question as to what general features distinguish a so-called work of art from other things, be they certain common characteristics, 'family resemblances', or something else. This question we shall not here attempt to answer, however, though in answering the question as to what sort or kind of thing is a work of art we shall be taking a first – but short – step towards answering it.

(1) It seems to me that when we use the term 'work of art' in ordinary discourse in relation to so-called *plastic works of art* such as paintings or statues, at least part of what we sometimes *may* refer to is a sensible thing – a particular painted canvas, a particular chunk of carved marble and so on. As I shall try to show a little later, part of what I refer to when I speak of works of art – or, specifically, of a 'painting', a 'sculpture', a 'play' – is in many cases something non-sensible. In some cases 'work of art' refers to something wholly sensible (*e.g.* in the case of abstract painting), while in other cases it refers to something which is partly sensible and partly non-sensible (*e.g.* in the case of representational painting). But it seems clear to me that these and other such expressions do refer to certain sensible things, whatever else they may refer to in the same context. We think of a painting as being in a certain place at a certain time – as hanging in an art gallery, say, on a wall; the work of art called *Venus of Milo* is said to be in the Louvre, and *Chartres Cathedral* in the city of Chartres in France. We may add that there are thousands of so-called copies of Da Vinci's *Mona Lisa*; but we do not speak of these as the work of art called the *Mona Lisa*. The work of art is the so-called original – a single object in some one place. Such statements as: 'I saw the *Mona Lisa*', 'I couldn't see the *Mona Lisa* because the Louvre was closed', would be meaningless if the *Mona Lisa* were not (at least in part) a sensible thing. (But though

* I wish to thank the editor of *Ratio*, Professor Julius Kraft, for constructive criticism of an earlier draft of this paper. I am also indebted to him for the present title of the paper.

many works of art are, at least in part, single things, they sometimes are a group of things. A panel of paintings, though not a very common phenomenon, may be said to constitute a single work of art.) It might be said that the work of art called the *Mona Lisa* is the group of sensible images or percepts I have in repeated perceptions of a particular canvas in the Louvre. But this is not true: what we see varies with lighting conditions, with the angle of vision, with the distance from which the canvas is seen and so on; yet we think of all of these perceptions as perceptions of one and the same object – the painting, the work of art, hanging on the wall.[1]

Our view that 'work of art', used in relation to so-called plastic works of art, is sometimes made to refer to something which is partly or wholly sensible, might be challenged on different grounds. It might be said that we are confusing two different things. It might be granted that the terms 'painting', 'sculpture', 'cathedral', etc., sometimes refer to something sensible; but it might be claimed that this does not mean that 'work of art' refers to something sensible; that 'work of art' or 'object of art' (or the 'aesthetic object') refers, rather, to an imaginary or (wholly) ideal object.[2]

It is true that 'painting', 'sculpture', are not always used in ordinary discourse in such a way as to include or involve the notion of work of art. Sometimes, though I think not very often, they are used differently. Thus we may call a painted canvas a 'painting' but deem it unworthy of the label of 'work of art'. (More often, though, such a 'work' is labelled 'trash', 'smears on a canvas', or 'hen tracks'.) But every work of art is a painting, a poem, a novel, a statue, a play, or some such thing; and a good many poems, paintings and the like *are* works of art. That is, it is one and the same thing which is called a painting or a sculpture, say, *and* a work of art. The thing called a work of art is not regarded as just *related*, somehow or other, to the thing called a painting or a sculpture.

Perhaps the matter may be stated briefly and less misleadingly as follows: the term 'work of art' is sometimes a manner of referring to or speaking about a given painting, poem and so on. We do sometimes deny the name 'work of art' to things we do call paintings, novels and the like; but when we do so the reason will be that we regard the latter, *qua* partly or wholly sensible things, as lacking certain sensible features and certain capacities generally considered

[1] We cannot enter here into the question whether or not paintings and statues, or any other sensible things, retain all or some of their perceived qualities when they are unperceived. This must be left for another occasion.

[2] For a discussion of the idealist's distinction between a 'painting', a 'sculpture', etc., and a work of art or 'object of art', and for a criticism of the view that the work of art is an ideal or 'imaginary' object, see Paul Ziff, 'Art and the "Object of Art" ' in *Aesthetics and Language*, edited by William Elton, Oxford, 1954, pp. 170-86.

essential for anything to be properly called a work of art.[3] Further, calling a painting, a poem, a novel work of art involves a value-judgment. It implies, among other things, that the *work* possesses a certain kind of merit or value, that it is an 'achievement' in W. B. Gallie's sense of this term. In terms of the preceding, it implies that the (unspecified) features it possesses have some kind of value or merit, and that their realization in the work constitutes an achievement.

Dr. Margaret Macdonald gives the following interchange in attempting to show that a work of art is not a physical object – though she does not hold that it is a sensible image, or a mental or 'imaginary' object:

> 'That', exclaims A triumphantly, pointing to his newly acquired canvas, 'is a great picture!' 'I should not call it a picture,' retorts B, 'but only a pot of paint flung in the face of the gullible public!'
>
> It seems clear that both have located the same physical object but that not both have located a work of art. Nor will it be of much use to tell B to look more closely and carefully, when he will find the work of art hidden in the paint, like a monkey in the branches of a child's puzzle. He may look as hard as you please, but he will not succeed, for in *that* sense there is nothing more to find. It is not perceptual tricks which distinguish a painted canvas from a work of art . . . What B lacks is not observation but that which A must supply as a critic to support his judgment, instruction and interpretation.[4]

Leaving aside Dr. Macdonald's view of the nature of a work of art, and without minimizing the importance of interpretation, what this example shows, it seems to me, is that a person (here B) may refuse to call something a painting, say, because he does not regard it as meriting the name 'work of art', since he reserves the term 'painting' only to things of a certain kind (painted canvases) which at the same time he is prepared to call a 'work of art'. Whereas another person (here A) may regard the same thing as a painting because he regards it as meriting the name 'work of art'. The example does not show that a work of art is not or cannot be a physical object. The disagreement between A and B is due to (at least) one of two things: (i) A finds in the painted canvas certain sensible and perhaps certain ideal features which B does not find in it – but which he may come to find on a more careful observation; or (ii) B is fully

[3] See my 'Art-Names and Aesthetic Judgments', to appear in *Philosophy*.
[4] *Aesthetics and Language*, p. 122. Italics in original.

aware of the features A finds in the painted canvas, but does not regard the canvas's possession of these features as sufficient to, or of the kind that, merit the canvas's being regarded as a work of art (or 'painting' in the sense of the term in which it does include or does involve the notion of 'work of art').

Now, we certainly distinguish the painting and the canvas (the cloth), or the pigment on it. For instance, we speak about the kind of canvas used and about the chemical constitution of the pigment, in their own right. In so doing we will be directly speaking about its elements. The painting, referred to as a work of art, is made up of physical elements – pigments on a canvas. But it is not merely that. The painting is the colours in certain patterns, in certain relations. When we talk about the pigments we will be talking about the painting or the work of art in the sense of talking about its physical or chemical elements. We also talk about the work's elements in another sense when we speak about the colour-qualities of the pigments on the canvas. Yet, in speaking in this way, we will be indirectly speaking about the painting as an artifact made out of these elements in certain relationships; and our distinguishing the painting's constituent elements and the painting as a whole does not imply that a painting is some sort of non-physical emergent arising from the combination of physical elements, any more than our distinguishing a chair as a whole and its legs and the planks of wood it is made of implies that a chair is a non-physical emergent arising from the joining of planks and legs.

(2) The use of 'work of art' we have discussed in relation to plastic works does not seem to apply to musical works – at least not directly as in the case of the former. The expression 'work of art' seems to be ordinarily applied to works of music in a different way from the way in which, as we saw, it may be applied to plastic works. That is, a second use of 'work of art' seems to arise in relation to musical works. Thus, in the case of a musical work, we do not refer to any particular printed score or to any particular record, to any particular playing of the work (whether on records or at a live concert), or to any number of these, as the work of art. We speak of the *score* of Beethoven's *Eroica Symphony*, of a *recording* of Bach's *Great Fugue*, of an *interpretation* or *rendering* of Stravinsky's *Firebird*. When I say, 'I have Beethoven's *Eroica Symphony*' or 'I have Bach's *Great Fugue*', and then, say, play a record, the context indicates that what I mean is that I have a record of the Beethoven or of the Bach work. There are thousands of copies of the score of Beethoven's symphonies, thousands of copies of the Bach record; and there have been and continue to be thousands of actual performances of these

works; but we think that there is only one *Eroica Symphony* and one Bach *Great Fugue*. True, we do speak of Beethoven's *writing* of his Third Symphony, of Bach's writing of his *Great Fugue*. We also point to a score and say: 'This is a great work.' But here we do not mean the printed notation; nor do we mean any particular performance or even all actual and possible performances of it.

What, then, is Beethoven's *Eroica Symphony* or Bach's *Great Fugue*? The answer seems to me that when we refer to Beethoven's *Eroica Symphony* we refer (in part) to the sequence of sound patterns we hear on playing a so-called recording of the work or on attending a concert in which the orchestra plays the so-called score of the symphony. These sound patterns, heard at the same time in different places, or at different times in the same or in different places, are thought of as more or less correct instances of certain (kinds of) sound patterns. They are different renderings of the same sound patterns; or if you like, they are different 'tokens' of the same 'type'. Because they are numerically different renderings of the same work, of the same sound patterns, they can occupy different places at the same time in the sense in which and so far as we speak of sounds as being in some spatial location, *i.e.* as coming from a certain spatial source in some place, as being heard in some place. Every written or printed note stands for a kind of sound in some key or another, in some scale or another; and so on. In ordinary discourse the 'token/type' distinction is often slurred over. We say: 'I heard Beethoven's Third Symphony tonight' when we mean: 'I heard a rendering or performance of the Third Symphony tonight.' Yet we seem to imply the distinction when we refer to the score to find out whether or not the particular rendering or performance was, as we say, musically correct.

Beethoven's Symphony No. 3 then seems to be what all the actual and possible interpretations, performances or renderings of a particular score will have in common as sequences of sound patterns (each of which is composed of notes with a particular pitch, volume, etc.), if the interpretations of the notation in the score are all made in conformity with the conventions established by musicians. But what all these will have in common is a set or congeries of what philosophers call universals. Is a musical work, then, a congeries of universals and not an individual thing like a painting or a statue? And if so, is a particular congeries of universals what we refer to when we speak of such and such a work of music as a work of art? It is indeed my claim that the term 'work of art', when used in relation to a so-called musical work, directly refers (at least in part) to certain sequences of sound patterns; and these kinds of sound

patterns constitute what we call the particular musical work. Nevertheless, I do not know whether anything is gained by calling a musical work a set, a complex or a congeries of universals. Also, I shall not attempt here to solve (or dissolve?) the so-called problem of universals. Whatever the answer to the first and the solution of (or the manner of dissolving) the second may be, the above characterization of a work of art seems to me to be sufficient at least for the purposes of the present paper.

Token/type distinctions of the above sort, we might add, also obtain in relation to some things which do not ordinarily fall within the pale of art. For example, the U.S.A. Flag. Certainly, the U.S.A. Flag is not the particular flag in Mr. Eisenhower's office in the White House, or the one on Capitol Hill, or any one of the thousands of flags flying over American Embassies scattered throughout the world. All these are tokens, so to speak, of the American Flag, which is a kind or type or sort of flag: a specific kind of pattern consisting of stripes and stars of a certain number, arrangement, colour and the like, on a certain kind of background.

What we have said about musical works applies, *mutatis mutandis*, to literary works, though there are various complications peculiar to the latter. Any one of Shelley's poems consists in given sequences of certain types of linguistic symbols in certain arrangements. Also, each reading of a Shelley poem – the patterns of sound involved – is an instance of the sequence of sound patterns which constitute the particular Shelley poem. However, unlike many if not all musical works and in particular those that are known as absolute or abstract music – such as Bach's partitas, fugues and suites, or Beethoven's Chamber music – these sounds (and the printed symbols) 'signify' more or less definite ideas; and these are a part of the poem as much as the sounds themselves. A poem has a non-sensuous, ideal component as well as a sensuous one (sounds). But again, the ideas in a poem, in a poetical work of art, are themselves kinds of thoughts ('universals') and not any particular instances of ideas (individual thoughts) in any given reader's mind. Thus any given poem, and hence any poetical work of art, consists in sequences of certain kinds of sound patterns plus sequences of certain kinds of thoughts 'signified' by these sound patterns. I do not mean to imply, however, that a *musical* work is always wholly sensuous and therefore that it lacks a non-sensuous component. Some, perhaps many, works of music do convey ideas of a rather general and indefinite kind, and to that extent contain a non-sensuous or ideal element. That is precisely why I said before that a musical work is 'at least in part' a sequence of certain kinds of sound patterns.

I might note in passing that what I have just pointed out about literary works applies to kinds of works which normally fall outside the field of art but which involve the use of linguistic symbols. I mean such things as scientific and philosophical treatises. Thus we speak of the ideas *in* Russell's *An Inquiry into Meaning and Truth*, or *in* Newton's *Principia*. Russell's *Inquiry* consists in a certain number of pages of certain types of linguistic symbols of which libraries have instances, plus the conceptual meaning of these (types of) symbols, the ideas they stand for. Similarly with Newton's *Principia*.

Does our present use of 'work of art' apply, *mutatis mutandis*, to painting, sculpture, architecture and other plastic arts? It seems to me that it does. That is, with respect to these the term 'work of art' is ordinarily employed in a direct manner in (at least) two different ways, in two senses; unlike literary and musical works – as a matter of fact all temporal works of art, including plays, operas and ballets. Taking a given painting, say Da Vinci's *Virgin of the Rocks*, we apply the term 'work of art' now to the particular sensible object – the particular painted canvas – hanging in the Louvre and labelled *Virgin of the Rocks*, now to the colour patterns, *qua* kinds of colour patterns, which are exemplified by the former. Which of the two we do in a given case depends on the particular situation or context, on our aims and intentions. Note that our first use of 'work of art' is a quantitative use, while our second use of it is a qualitative use, so to speak. Also, that the term in the former case is a rather general, while in the latter case it is a specific, sort of label. When we refer to a work of art in a general way in ordinary lay discourse, where our objective is to draw attention to certain things called 'paintings', 'sculpture', architecture', etc., and we are not concerned to analyse the specific elements in or qualities of the works, we think of these works and refer to them as (at least partly) individual sensible things. In this use of 'work of art' the term could be replaced by 'painting', 'statue', 'cathedral' and so on, depending on the kind of work involved. But when we are aesthetically analysing a work (in the 'general' sense of 'work of art'), what we refer to or think of as the work of art is (at least in part) the sensible patterns *qua* kinds of patterns. In this use of 'work of art' the term cannot be replaced by 'painting', 'statue', 'vase', 'temple' and the like, as the case may require, in the above quantitative sense of these terms. It can, however, be replaced by one of these terms or another in a non-quantitative use of these terms: the use in which two qualitatively identical *Mona Lisa*'s would be called (say) 'two instances of the painting called the *Mona Lisa*', and not 'two paintings'. Finally, let me add that the second use of 'work of art' is the more important

use of the term in the aesthetic and critical analyses of specific works and in aesthetics in general: this being the reason why it may be called an (or perhaps *the*) 'aesthetic use' of 'work of art'.

It will be remembered that in my discussion of musical works I expressed some doubts as to whether it is profitable to speak of a musical work as a complex of universals. The same doubts arise in relation to literary and plastic works of art (in the case of the latter, in so far as we think of them as works of art in our second sense of this term). I shall now add a few remarks in order to show that a work of art cannot be properly regarded at least as a complex of Platonic universals.

(a) The kinds of sensible patterns of which a work of art in our present sense of this term is partly or wholly constituted do not and cannot exist except in particular, individual painted canvases, in individual blocks of hewn marble; and no symphony, as certain sequences of sound patterns, exists apart from all actual performances of it – past, present and future. This is seen by considering the ways we talk about works of art, some of which we have discussed in the foregoing sections. Indeed, I do not see what meaning we could attach to the statement that the patterns we are talking about do or can exist apart from all individual sensible things (*i.e.* apart from any sensible media), since they are kinds of *sensible* patterns (colours, sounds, etc.).

(b) With this goes the simple empirical fact that, as we ordinarily say, a given symphony, poem or painting, as certain kinds of auditory or visual patterns, comes into existence at some particular time: when a Beethoven, a Shakespeare or a Picasso conceives and writes the score or words, or paints the particular canvas. Of course, the sensuous elements involved in each case – sounds, colours, etc. – are there all the time; but the particular arrangements and combinations of these elements, *qua* kinds of sensuous elements, are the product of the artist's creativity and technical skill. Here let us note certain further ways in which we talk about works of art. We talk of certain works as having been *lost* after they were created; and though some works are said to be *discovered* or *rediscovered* from time to time, others, believed to be extant, remain *undiscovered*. Also, it is a historical fact that some works of art have been, as we say, *destroyed* by human or other agencies. It is interesting, though, that a temporal work of art is said to be or to have been destroyed if and only if *all* the extant manuscripts, scores and other types of records of it have been destroyed and it is impossible to reproduce them from memory (where only one record, *e.g.* the original manuscript, exists, its destruction may be sufficient for the 'destruction' of the

work). In the case of a plastic work, the destruction of the original painting, statue, etc., alone is sufficient. The reason for this difference in the way we speak about temporal and plastic works is not, however, that the latter – but not the former – are complexes of Platonic universals. (It is also not the case that the way in which we talk of the destruction of a work of art as a consequence of the destruction of a certain specified number of scores, manuscripts, etc., implies that a score *is* what we call the 'musical work' and hence a 'work of art'.) As we earlier tried to show, we do apply the term 'work of art' in our second sense to plastic as well as to temporal works; hence *either* both plastic and temporal works can be regarded as complexes of Platonic universals, or *neither* can be so regarded. The real reason, rather, is that as long as some record of a temporal work remains, the particular sequences of sound patterns which form the whole or a part of (what we call) a temporal work can still be identically reproduced; whereas the exact reproduction of the visual and tactile patterns that form the whole or a part of (what we call) a painting or a statue, even by the artist himself, is actually not possible. The same holds of architectural works. We certainly speak of the rebuilding of a given cathedral, monument or other architectural structure that has been destroyed; but even then we regard the resulting structure as being different, to a greater or lesser extent, from the one destroyed – hence as a new work, at least in its details. I need not add anything about the comparative aesthetic value of paintings (especially great ones) and any reproductions of them; or about the aesthetic value of symphonies and poems *vis-à-vis* the possible aesthetic value of the manuscripts of these scores and poems.

So far we have not said anything about the feelings or emotions which a temporal or a plastic work of art may evoke in a hearer or spectator, as the case may be. Are these – or any feelings or emotions in general – ordinarily said to form part of a work? The answer seems to be in the negative, unless we use the words 'feelings' and 'emotions' in relation to works of art in a peculiar sense, to mean the sensuous and non-sensuous *qualities* of a work which are psychologically responsible for the evocation of feelings or emotions (in a straightforward sense) in this or that hearer or spectator. The feelings or emotions which a poem, say, may evoke in a reader or listener is the effect, in the latter, of the auditory qualities of the word patterns, as well as of the thoughts which the word patterns evoke in him. They are not, in ordinary discourse, said to be part of the poem itself. Similarly, *mutatis mutandis*, with other types of works of art. It is true that we do speak of some works of art as 'charged with emotion', or refer to them as 'highly emotional'

works. We also sometimes attribute a work's lack of effectiveness to the work itself. In other words, we sometimes say that a work is dry, cold, lacking in feeling and the like. Do we not, therefore, regard the feelings or emotions evoked by a work as part of the work itself? It must be acknowledged that we do speak in the above fashion. Yet it seems to me that when we do so we will be speaking in a different way from the way we speak about the ideas in a work. (I might mention parenthetically that failure to grasp this and ignorance of the fact that the feelings or emotions evoked by a work are not, in the ordinary uses of 'work of art', 'poem', 'statue', etc., included in the work as a part of it, constitute one main reason for the rise and persistence of the so-called Expression Theory of Art.) This is shown by the way in which we would answer such questions as: 'What do you mean by saying that this work is dry?' We say: 'Oh, I mean that it does not move me; it leaves me cold'; or better: 'It leaves one cold.' The implication here is that the work lacks the kinds of sensuous and ideal features which make a work effective, which evoke feeling or emotion. Here we may have in mind the work's deficiency in one or more of the following: realism and naturalness, firm characterization, a simple, clear, vigorous language, striking and original images, fresh cadences, etc. Some of these features are sensible, formal qualities; others, such as striking or original imagery, simple and clear language, and characterization, are ideal in the sense of being conceptual or imaginative qualities, or both. It is to be noted that many of the epithets by which we describe a work's features are transferred epithets. They are psychological epithets applied, by transference, to a work's formal features; it being thought that these formal features are capable of producing in the hearer or spectator the psychological effects which the epithets denote, under what I have elsewhere called 'standard conditions'.[5] Examples of such epithets are: 'sad', 'melancholy', 'nostalgic', 'sentimental', 'gripping', 'sedate'.

The interesting question which now arises is why feelings and emotions are treated in a different manner from ideas, in our ordinary ways of speaking about them in relation to works of art; why the latter but not the former are regarded as a possible component of works of art. But before we try to answer this question, let me emphasize that whatever the answer may be, and whatever the merits or demerits of the particular reasons we give, we should not lose sight of what seems to me the primary and important fact; namely that in the area under discussion we do speak of ideas in a

[5] 'Common Names and "Family Resemblances" ', *Phil. and Phen. Research*, vol. XVIII, No. 3 (March 1958), pp. 341-58, and 'Art-Names and Aesthetic Judgments', forthcoming.

different way from the way we speak of feelings and emotions, in the manner stated above. Now for the reasons:

(1) In literature – the 'intellectual' art *par excellence* – the *relation* between the words and their conceptual meaning (ideas) is different from (*a*) the relation between the former and the emotional effect produced, and from (*b*) the relation between the conceptual meaning of the words, itself, and the emotional effect. The ideas in a literary work are what the words and sentences conventionally stand for or signify, not their causal effects; whereas the feelings or emotions are in part the causal (psychological) effects of the words and sentences.

(2) I said 'in part' because the feelings or emotions evoked are also in part the causal (psychological) effects in us of the conceptual meaning of these symbols, of the ideas they signify. This gives us a second reason. The feelings or emotions evoked are the effects of the words and sentences *qua* sensible things together with their conceptual meaning; and in a work of art, especially in a good work of art, the latter two go hand in hand, producing a unified effect. It is logical, therefore, to think of the words and their conceptual meaning as belonging together in a different way from the feelings or emotions they may jointly evoke; that is, to think of the symbols and their conceptual meaning as together constituting the work of art, and regarding the feelings or emotions they evoke as belonging to the things the work affects: the listener or reader.

(3) That the emotional effect of a literary work is not regarded as a part of the work itself is consonant with the way in which we speak of a thing's causal effects in general, whatever the thing may be – a stone, a hammer, a cloud, a storm, a car. We regard a thing's causal effects as belonging in a straightforward sense to the thing affected, not to the causal object itself.[6] We do not speak of the effect of a fire on me as an attribute of the fire, but of my body. The effect is produced by the fire; but it is in me. It would, therefore, be rather peculiar if an exception were made in the case of works of art, unless there were a good reason for doing so; and I do not see any such reason.

(4) The nature of the ideas said to be in a given literary work is regarded as wholly specified by the nature of the linguistic symbols, independently of the temperament, past experience, upbringing, etc., of the hearers or readers; that is, ideas are, as we say, objective (universally the same). Whereas the nature of the feelings or emotions evoked is regarded as only partly specified by the nature of

[6] This point, in another context, is elaborated in my 'On Mr. Theodore T. Lafferty's "The Metaphysical Status of Qualities" ', *The Journal of Philosophy*, vol. LV, No. 10 (May 8th, 1958), pp. 397-412.

the symbols. Their nature is thought of as also partly specified by the hearer's or reader's temperament, mood, past experiences and the like. The underlying logic, therefore, is: feelings and emotions are variable; hence they are 'subjective'. Yet a literary work is regarded as 'objective' in the sense of being something having an existence and a character independent of the existence and the character of any particular individual – objective in the same way as chairs and mountains and clouds are ordinarily said to be objective. It is true that two readers of a given poem may understand the whole poem, or any part of it, differently. A good example is Keats's famous 'Beauty is truth, truth beauty' in his 'Ode on a Grecian Urn'. This we allow for in ordinary discourse, however, without abandoning the above point of view. For instance, one type of explanation we sometimes resort to is that one of the two readers (at least) misunderstands or misinterprets this line; that one of the interpretations (at least) is incorrect or wrong. We may assume, that is, that the line itself conceptually means just one relatively definite and fixed thing established by linguistic convention; and that this is what the poem conveys. None the less, we sometimes attribute the differences in interpretation to the work itself; we say that what it means is not clear: that it is vague or even ambiguous. Precisely because we attribute these things to the poem itself (when we do), we may judge the latter to be a poor work – or, in very glaring cases of vagueness or ambiguity, as not even a poem at all. It is to be noted, however, that there are cases where we regard the ideas in a given poem as vague (but not where we regard its language as *ambiguous*) and yet do not, for all that, regard it as defective. This obtains when we regard the vagueness as intended and – what is more important – as serving an aesthetic end. Many of Edgar Allan Poe's poems come to mind here. The existence of such cases does not constitute an exception to what we have said; for the ideas there are thought of as vague in their own nature. Further, it still remains that we think of these ideas as capable, in principle, of being the same in the minds of all men. That suffices for the attribution of objectivity to them.

Now, different spectators, especially spectators coming from different cultures or living in different historical periods, often interpret the representational, or symbolic, elements differently; and to some spectators they may even convey nothing at all. These things happen particularly when the representation is subtle, sketchy, veiled or highly individualistic; or when the symbolism is complex, esoteric, peculiar to the artist or to a clique, far-fetched, highly abstract, heavily theological, mystical or philosophical. The critical and scholarly controversies concerning the interpretation of such

works as Kafka's *The Trial* or Thomas Mann's *Dr. Faustus*, to name only two, suffice to illustrate this point. But even here, *if* a spectator regards a given painting, statue, etc., as representational, or as containing symbolic elements, he would ordinarily regard the representational or the symbolic elements as forming part of the work itself. Controversies of the sort alluded to do not concern the general question as to whether or not these elements, as certain types of elements, are to be considered part of a plastic work of art (the same applies to other art-forms), but rather the specific question of whether or not to regard a *given interpretation* of a work supposed to be representational or symbolic as correct or adequate: whether or not, that is, the alleged representational or symbolic elements are properly attributable to the particular work.

The terms 'representational element' and 'symbolic element' need clarification, however. Two things have to be distinguished in the so-called representational, and two in the symbolic elements, of a work: in the first case, what I shall call (*a*) 'that which is represented' or the subject of a work, (*b*) 'the representation', in the product-sense of 'representation'; and in the second case, (i) 'that which is symbolized' by a work, and (ii) 'the symbols' in a work. That which is represented in or the subject of a plastic work may be any object or thing, or any kind of object or thing, actual or fictitious, animate or inanimate, which the work is said to portray or delineate. For example, that which is represented by the *Mona Lisa* is a woman – who may or may not have been a real woman living in Da Vinci's time or before it. Where this is an object, situation, character or scene which actually exists or has existed, it obviously does not and cannot form part of the work which portrays it. But where it is fictitious or imaginary it is, I think, ordinarily spoken of as constituting an ideal component of the work.

The same applies to that which is symbolized by a so-called symbolic plastic work of art – but with at least one interesting exception. When we look at a representational work, we often *see* in it that which is represented, in a sense in which we do not and cannot see in a symbolic work that which is symbolized. That is, we recognize the representation as a (particular) *representation*; we perceive that certain sensuous elements in the work form patterns resembling familiar patterns in the world. This is shown by the way we talk when we fail to discover what is represented by, say, a semi-abstract modern painting; and by the way in which the former may be pointed out to us. Consider the following interchange: A. 'The title says this is a portrait of a woman; but I cannot see any woman or fish or fowl in it.' B. 'Why, but here it is! Can't you see it?

(points) – the face, the neck, the body, the legs . . .' A. 'Oh, I see it now . . . the poor woman: she has been changed beyond recognition!'

This brings us to 'the representation' in a representational plastic work. When we observe a plastic work we see, in a straightforward sense of this verb, certain visual patterns of lines and masses, some or all of which may be what I called 'the representation' in the work. As a specific complex of various sensuous elements of a work, it forms part of the latter in the same way in which other, non-representational sensuous elements form part of it.

The foregoing discussion applies to literature and to music in so far as they may involve symbolism; and to the latter also in so far as it may involve representation. We do not ordinarily speak of literary works as involving representation, and therefore what we said above about this does not apply to them. We need not linger on ideas, feelings and emotions in relation to such works, since we have already dealt with them.

BLACKSTONE AND THE LAW OF NATURE

By Hans-Justus Rinck

I

When in the middle of the eighteenth century Blackstone[1] set about shedding light on to English law and all its singularities in order to place it as an equal-ranking manifestation of justice side by side with Roman law, which had hitherto been the only law taught at British universities, he sought to gain two allies in particular whom at that time scarcely any legal thinker dispensed with: reason and the idea of a natural law absolutely valid irrespective of space and time.

If the common law could withstand a critical examination by reason, if clear, self-evident reasons could be adduced for its individual provisions, and if the whole proved to be a logically constructed edifice – then he might hope to convince his contemporaries, who trusted so implicitly in the powers of reasoning, that their country's legal system was worthy and susceptible of scientific treatment. Yet that alone did not suffice. It was also necessary to demonstrate that the foundations on which the entire self-contained edifice rested were solid and indisputable. Only when this, too, had been successfully demonstrated, could it lay claim to being considered a valid and permanent answer to the age-old question of right and wrong. The best proof of this, it appeared to Blackstone, lay in a comparison with the law of nature. So he set about tracking down this law of nature and putting it – in so far as it appeared to him capable of being thus treated – into certain definitions in order to apply it then as a touchstone and measuring rod to the English law of which he was such a passionate advocate.[2]

[1] Blackstone's life and development have been frequently described. The oldest contemporary biography was written by Blackstone's brother-in-law, Clitherow. Clitherow, as Blackstone's executor, published after the latter's death a collection of reports which Blackstone had collated during his practice as barrister and judge. He prefaced the work with a biographical appreciation of Blackstone, which is generally known as 'Clitherow's Preface'. The full title is *Reports of Cases Determined in several Courts of Westminister-Hall from* 1746-99; *with a Preface containing Memoirs of the life of the honourable Sir William Blackstone, Knight, late one of the Justices of his Majesty's Court of Common Pleas*, 1781, new (2nd) Edition with notes by Elsay, 1828.

All subsequent Blackstone biographies make considerable use of 'Clitherow's Preface'.

Also worth mention is a further, anonymous biography: *The biographical history of Sir W. B. and a catalogue of all Sir W. B.'s Works*, by a Gentleman of Lincoln's Inn, London (author, Douglas).

The most comprehensive work, which makes full use of previous essays and special studies is David A. Lockmiller's *Sir William Blackstone*, Chapel Hill, 1938.

[2] This plan was developed by Blackstone as early as his inaugural lecture in Oxford on October 25th, 1758. Having pointed out the necessity of tracing English law back to its original sources for the sake of better understanding it, he continues: 'These primary

II

This endeavour finds its main expression in the *Commentaries*.[3] His doctrines of natural law are presented systematically in the second section[4] of the introduction to the first book; apart from frequently interpolated observations on certain aspects of natural law, they are further expounded, with regard to property, only in the first chapter of the second book.[5]

Blackstone begins his excursus on the law of nature with an explication of the concept of law. He first defines it broadly as 'a rule of action dictated by some superior being'.[6] Law in this wider sense governs the whole of earthly reality from passively reacting matter through vegetable and animal forms of existence to that of man himself. 'Thus we say the laws of motion, of gravitation, of optics or mechanics, as well of the laws of nature and of nations.'[7] Their common characteristic consists in their being rules of action 'prescribed by some superior, and which the inferior is bound to obey'.[8] God imposed these basic rules on matter at the creation, just as a clockmaker in making a clock 'establishes, at his own pleasure, certain arbitrary laws for its direction . . . to which law as long as the work conforms, so long it continues in perfection, and answers the end of its formation'.[9]

Whereas those creatures 'that have neither the power to think, nor to will' must yield completely to such laws in the broader sense 'for their existence depends on that obedience', man, 'the noblest of all sublunary beings, a creature endowed with both reason and will',[10] occupies a special position; for the creator has allowed him a certain scope in order that he may exercise his freedom of will. It is true that man as a creature of God is dependent on Him in every respect and must yield entirely to God's will; 'for a state of dependence will inevitably oblige the inferior to take the will of him on

[3] The *Commentaries on the Laws of England, in four books* (1st Edition, 1765-69) are Blackstone's main work. It achieved an unusually wide circulation. A total of twenty-five editions appeared in England, three in Ireland, at least twelve in the U.S.A. They were translated in whole or in part into French, Italian, Russian, Spanish and German. Lists of Blackstone's various publications and details of their circulation are to be found in Dunoyer's *Blackstone et Pothier*, Paris, 1927, pp. 33ff.; Lockmiller's *Sir William Blackstone*, p. 157; and in the *Dictionary of National Biography*, II, pp. 601ff.

The numbering of the pages of the 1st Edition was retained in all later editions and revisions. It has become customary to quote: *Commentaries*, I (volume), 31 (page).

[4] *Of the Nature of Laws in general.* [5] *Of Property in general.*

[6] *Commentaries*, I, p. 39. [7] *Commentaries*, I, p. 38. [8] *Commentaries*, I, p. 38.

[9] *Commentaries*, I, p. 38. [10] *Commentaries*, I, p. 39.

rules and fundamental principles should be weighed and compared with the precepts of the law of nature, and the practice of other countries, should be explained by reasons, illustrated by examples, and confirmed by undoubted authorities.' *Commentaries*, I, p. 36.

whom he depends as the rule of his conduct'.[11] Yet since God desired man to be a free being, a being, therefore, 'that has no rule to pursue but such as he prescribes to himself',[12] He confined Himself to laying down for man a few basic rules. 'For as God, when He created matter, and endued it with a principle of mobility, established certain rules for the perpetual direction of that motion, so, when He created man, and endued him with free will to conduct himself in all parts of life, He laid down certain immutable laws of human nature, whereby that free will is in some degree regulated and restrained.'[13] These basic rules are 'law' in the narrower sense, or, as it is generally called, the 'law of nature'.

As a being of infinite power, God was completely free in the making of these laws. Since, however, He is at the same time a being of infinite wisdom, He prescribed laws for man which are 'merely founded in those relations of justice that existed in the nature of things antecedent to any positive precept'.[14] 'These are the eternal immutable laws of good and evil to which the Creator Himself, in all His dispensations, conforms.'[15] To these belong among others the basic precepts of Roman law '*Juris praecepta sunt haec, honeste vivere, alterum non laedere, suum cuique tribuere*'.

God did not merely subject man to these laws; He also endowed him with reason so that man could perceive their sense and content. God enabled reason to discover these laws as far as is necessary for the guidance of human behaviour. 'But if', Blackstone argues further, 'the discovery of these first principles of the law of nature depended only on the due exertion of right reason and could not otherwise be obtained than by a chain of metaphysical disquisitions, mankind would have wanted some inducement to quicken their inquiries, and the greater part of the world would have rested content in mental indolence and ignorance, its inseparable companion.'[16] Being endowed, however, not only with infinite power and wisdom, but also with infinite goodness, God has been pleased to so contrive the constitution and frame of humanity that we should want no other prompter to inquire after and pursue the rule of right than our own self-love, that universal principle of action.

With this Blackstone has carried his inquiry into the law of nature to the point where it becomes necessary to derive from it that supertemporal yardstick which can be applied to every concrete, positive legal order for the purpose of determining its worth or worthlessness. He acquits himself of this task by equating rather abruptly the laws of eternal justice with those of the happiness of each individual. God

[11] *Commentaries*, I, p. 39. [12] *Commentaries*, I, p. 39. [13] *Commentaries*, I, pp. 39-40.
[14] *Commentaries*, I, p. 40. [15] *Commentaries*, I, p. 40. [16] *Commentaries*, I, p. 40.

'has so intimately connected, so inseparably interwoven the laws of eternal justice with the happiness of each that the latter cannot be obtained but by observing the former; and, if the former be punctually obeyed, it cannot but induce the latter'.[17] In consequence of this close linkage between justice and human happiness, the law of nature can be reduced, without burdening it with further abstract rules and regulations, to a reasonably concise formula: God 'has graciously reduced the rule of obedience to this one paternal precept that man should pursue his own true and substantial happiness'.[18] In this principle Blackstone believes that he possesses the sought after touchstone. It is for him at the same time 'the foundation of what we call ethics or natural law'.[19] 'For the several articles into which it is branched in our systems amount to no more than demonstrating that this or that action tends to man's real happiness, and therefore very justly concluding that the performance of it is a part of the law of nature or, on the other hand, that this or that action is destructive of man's real happiness, and therefore that the law of nature forbids it.'[20]

Having apparently solved the problem of good and evil, right and wrong in principle in this rather surprising manner, Blackstone turns to the question of how this major premise can be made to provide specific solutions for each individual case. 'But in order to apply this [law of nature] to the particular exigencies of each individual, it is still necessary to have recourse to reason, whose office it is to discover what the law of nature directs in every circumstance of life by considering what method will tend the most effectually to our own substantial happiness.'[21] No further directions are given. Yet Blackstone comes to doubt whether human reason is always equal to this task. Does not each of us learn from experience of his own self that reason is corruptible and understanding full of ignorance and errors? However, Divine Providence took account of this frailty and imperfection of human reason and has at different times and in various ways elucidated and confirmed its laws by direct revelation. 'The doctrines thus delivered we call the revealed or divine law'; their only source is the holy scriptures.[22] If one compares the latter's doctrines with the law of nature, it becomes evident that they are in truth nothing other than a part of the law of nature; 'as they tend in all their consequences to man's felicity'.[23] Owing to its own peculiar certainty and definiteness, revealed divine law has for the present anyway an incomparably greater importance. 'If we could

[17] *Commentaries*, I, p. 40. [18] *Commentaries*, I, p. 41. [19] *Commentaries*, I, p. 41.
[20] *Commentaries*, I, p. 41. [21] *Commentaries*, I, p. 41. [22] *Commentaries*, I, p. 42.
[23] *Commentaries*, I, p. 42.

be as certain of the latter [the law of nature] as we are of the former [the divine law], both would have an equal authority, but till then they can never be put in any competition together.'[24]

With this observation Blackstone concludes the sketch of natural law and turns to the relationship between natural and positive law, and thus at the same time to the demarcation of the province of the law of nature.

This brings Blackstone to the problem of the validity of law. His solution can best be understood if one bears in mind that he holds law to be a rule of action which 'is prescribed by some superior and which the inferior is bound to obey', and if one also remembers that he thus makes the complete subjugation of man to the will of God a component part of the law of nature. 'Man, considered as a creature, must necessarily be subject to the laws of his creator; for he is entirely a dependent being . . . a state of dependence will inevitably oblige the inferior to take the will of him on whom he depends as the rule of his conduct.'[25] However, this principle is limited to a certain extent by the fact that God wished man to be a free being and has, therefore, broken through the relationship of dependence enough to allow sufficient free play for the freedom of the human will. It is logical that the law of nature does not project into this area of freedom, for the unconditional dependence of man upon his creator is to this extent set aside in accordance with the will of God. It is rather the legitimate sphere of human legislation which begins here, the region of indifferent matter, in which there is no generally binding regulation prescribed by the law of nature. Consequently, individual questions arising in this region can be answered by a particular legal community in either one way or another.

Outside of this area of freedom, however, the law of nature applies irrespective of whether it is taken account of by positive law or not. 'Upon these two foundations, the law of nature and the law of revelation, depend all human laws; that is to say, no human law should be suffered to contradict these.'[26] 'It [the law of nature] is binding over all the globe, in all countries, and at all times: no human laws are of any validity, if contrary to this; and such of them as are valid derive all their force and all their authority mediately or immediately from the original.'[27]

[24] *Commentaries*, I, p. 42. [25] *Commentaries*, I, p. 39. [26] *Commentaries*, I, p. 42.

[27] *Commentaries*, I, p. 41. Blackstone illustrates this with the example of murder. Murder is expressly forbidden by divine law, and the same prohibition can be derived from the law of nature. It is unlawful by reason of this prohibition alone. 'Those human laws that annex a punishment to it do not at all increase its moral guilt or superadd any fresh obligation *in foro conscientiae* to abstain from its perpetration. Nay, if any human law should allow or enjoin us to commit it, we are bound to transgress that human law, or else we must offend both the natural and the divine.' *Commentaries*, I, pp. 42-3.

However, within the area of freedom excluded from the law of nature, where the real force and efficacy of human laws manifests itself, the binding force of positive law does not rest upon the law of nature. 'But with regard to things in themselves indifferent, the case is entirely altered. These become either right or wrong, just or unjust, duties or misdemeanours, according as the municipal legislator sees proper, for promoting the welfare of the society and more effectually carrying on the purposes of civil life.'[28]

Yet this does not answer the question from where human laws which govern indifferent matter derive their obligatory character. Blackstone finds the answer in Barbeyrac and Pufendorf, to whom he explicitely refers in this connection. 'If man were to live in a state of nature unconnected with other individuals, there would be no occasion for any other laws than the law of nature; neither could any other law possibly exist: for a law always supposes some superior who is to make it; and, in a state of nature, we are all equal, without any other superior but Him who is the author of our being.[29] But man was created for society; and, as is demonstrated by the writers on this subject, is neither capable of living alone, nor indeed has the courage to do it.'[30] That induced men to unite.[31] And now Blackstone falls back upon the idea of the social contract, treating it not so much as a fact than as a heuristic principle. 'Not that we can believe with some theoretical writers that there ever was a time when there was no such thing as society either natural or civil; and that from the impulse of reason and through a sense of their wants and weaknesses individuals met together in a large plain, entered into an original contract and chose the tallest man present to be their governor. And this is what we mean by the original contract of society; which though perhaps in no instance it has ever been formally expressed at the first institution of a state . . . namely, that the whole should protect all its parts and that every part should pay obedience to the will of the whole'.[32]

Thus a state is a collective body composed of a multitude of

[28] *Commentaries*, I, p. 55.
As an example of this Blackstone quotes the ban on the export of raw wool, which in the England of his day was so important in view of the increasing Dutch competition in the fabrication of cloth. *Commentaries*, I, p. 43.

[29] This natural state of equality without any kind of earthly superior is the mark of the relations between nations, which normalize the law of nations. The latter, therefore, rests only on the law of nature and, like divine law, comprises a part of it, 'Hence arises a third kind of law to regulate this mutual intercourse called "the law of nations": which as none of these states will acknowledge a superiority in the other, cannot be dictated by any; but depends entirely upon the rules of natural law . . . being the only one to which all the communities are equally subject: and therefore the civil law very justly observes that "*quod naturalis ratio inter omnes homines constituit, vocatur jus gentium*"'. *Commentaries*, I, p. 43.

[30] *Commentaries*, I, p. 43. [31] *Commentaries*, I, p. 47. [32] *Commentaries*, I, pp. 47-8.

individuals united for their safety and convenience and intending to act together as one man. It can be produced in no other way than by all persons consenting to submit their own private wills to the will of one man or of one or more assemblies of men to whom the supreme authority is entrusted.[33] If, therefore, on the one hand, individuals are bound to act in accordance with the will of the state, it follows, on the other hand, that the latter must proclaim what this will is. Yet since in so great a multitude it is impossible to give specific directions to each individual, the state has merely established general rules laying down what each individual is to do or not to do, what is to be considered honest, dishonest or indifferent; in short 'what degree every man retains of his natural liberty, what he has given up as the price of the benefits of society'.[34] The will of this supreme power is what we call law.[35] 'Sovereignty and legislature are indeed convertible terms, one cannot subsist without the other.'[36]

Thus even in the sphere that is free of the law of nature Blackstone does not relinquish the moment of compulsion as a constitutive element of law. Only here the place of the absolute dependence of man upon God is occupied by the subjection of the citizen to the sovereign legislator. 'Whereas our obedience to the law depends not upon our approbation, but upon the Maker's will.'[37] Or, expressed negatively: 'We must, therefore, observe that the main strength and force consists in the penalty annexed to it. Therein is to be found the principal obligation of human laws.'[38]

Thus positive law derives its obligation, in so far as it intrudes into the area governed by natural law, from natural law, which in turn gains its validity from the dependence of man upon God. To the extent that positive law absorbs natural law, the former must prove itself to be an expression of the latter: otherwise it is null and void. On the other hand, within the area of freedom left by God, the validity of positive law is based upon *iura summi imperii*, these being entrusted to the leadership of the state either expressly or implicitly.[39] What is just or unjust, duty or transgression of duty is determined in this region alone by the 'supreme, irresistible, absolute and uncontrolled authority'[40] of the legislator, with the reservation, however, that such laws are not endowed with any moral obligation. 'But in relation to those laws which enjoin only positive duties and prohibit only such things as are not *mala in se* but *mala prohibita* merely . . . conscience is no further concerned than by directing a submission to penalty in case of our breach of those laws. The

[33] *Commentaries*, I, p. 52. [34] *Commentaries*, I, pp. 52-3. [35] *Commentaries*, I, p. 52.
[36] *Commentaries*, I, p. 46. [37] *Commentaries*, I, p. 44. [38] *Commentaries*, I, p. 57.
[39] Cf. *Commentaries*, I, p. 49. [40] *Commentaries*, I, p. 49.

alternative is offered to every man: "either abstain from this or submit to such a penalty"; and conscience will be clear whichever side of the alternative he thinks proper to embrace.'[41]

Blackstone provides no uniform criterion for differentiating between the part of positive law resting on the law of nature and that founded on the sovereignty of the human legislator. He contents himself with a highly unsystematic casuistry, which in itself is hardly convincing.[42]

III

That Blackstone in his discussion of the law of nature was more concerned with a vindication and consolidation of the existing state of the law than with a serious independent endeavour to deal with material legal problems becomes completely certain when one turns to the main parts of the *Commentaries* devoted to a presentation of the common law,[43] in the expectation that the doctrines of natural law will there be elaborated and more fully discussed in the light of concrete legal material. What is offered is an affectionate and fluent description of the prevailing law. Its historically conditioned details are carefully brought together, ordered and set out in plain language. Here Blackstone proves his ability to bring the vast mass of legal maxims into close connection with the relevant conditions of life, thus giving flesh and blood to his exposition. The legal material, consisting in the main of judgments and usages, is summarized in easily memorized, though not always clear-cut, definitions.[44] The exposition always appears balanced and consistent, and the general line of thought and structure are not lost. What is notable is the disproportionately

[41] Cf. *Commentaries*, I, pp. 57-8.

[42] It is restricted within the framework of his general discussion of the law of nature to the following examples: On the law of nature are based: the inviolability of life and liberty, the duty of worshipping God and of maintaining children, and the illegality of murder, theft and perjury (*Commentaries*, I, p. 54). The following belong only to the sphere outside the law of nature: matrimonial regime, monopoly legislation (*Commentaries*, I, p. 55), the maintenance of public roads as is prescribed by law, game laws, the close season for partridges, the law prohibiting the carrying on of a trade without having served a previous apprenticeship, or the rule that a corpse should be buried in a woollen blanket (*Commentaries*, I, p. 58).

This catalogue is increased by many examples further on in the *Commentaries*, although in the majority of cases no reason is given for placing a given example in the one or the other category.

[43] Blackstone divides them up into four books: 'The Rights of Persons', 'The Rights of Things', 'Of Private Wrongs', 'Of Public Wrongs'. The whole of substantive law and the law of procedure is fitted into this scheme.

For details of the method Blackstone employs and of the authorities he consults, see Richard Benser, *Die Systematik des Privatrechts in Blackstone's 'Commentaries' on the Law of England*, 1938, vol. III of the proceedings of the Kiel Seminar for German Common Law.

[44] See Benser, p. 16.

greater importance Blackstone attaches to historical discussions compared with references to the law of nature,[45] although he continues to make frequent allusion to the latter quoting his principal authorities such as Hobbes, Grotius, Pufendorf, Barbeyrac, Locke, Montesquieu and Beccaria. From the large number of references to the law of nature we shall here select only a few typical ones in order to show in what manner and to what purpose Blackstone utilizes the idea of the law of nature.

In the first place there is the by far predominant group of completely empty statements such as that freedom of movement is 'a right strictly natural',[46] that slavery 'is repugnant to reason and the principles of natural law',[47] that matrimonial relations are 'founded in nature',[48] that the duty of parents to provide for the maintenance of their children 'is a principle of natural law',[49] or that the rule that a brother of half blood shall never succeed as heir to the property of his half-brother, this property becoming instead the property of the crown 'is nothing repugnant to natural justice'.[50] These and similar statements are usually made without any explanation why the rule in question is to be regarded as belonging to the law of nature or as being an emanation of natural justice. They demonstrate how ineffectual is Blackstone's criterion of what is just and unjust and show further that he is able to justify practically any consequence of law with his own version of the law of nature.

The series of examples could easily be extended. However, it will here suffice to draw attention to Blackstone's wrong approach to solving the material-ethical problem. The 'true and substantial happiness of the individual' does not provide a criterion of general validity for distinguishing between right and wrong, just and unjust because this 'happiness' can lie – according to the dispositions and personality of each individual – in the endeavour to achieve very different kinds of aim. Blackstone makes a concomitant of action, the subjective feeling of happiness, the real goal of action. He overlooks that every action includes an objective success in its goals, that it is the task of law to divide these goals of action into right and wrong, permitted and forbidden, and that an objective criterion for making this division cannot be provided by the feeling of happiness

[45] In this connection it should suffice to quote as an example the historical excursus on the treatment of the laws regulating the succession (*Commentaries*, I, pp. 196-217) or the detailed examination of the roots of the Feudal system (*Commentaries*, II, pp. 44-58).

[46] *Commentaries*, I, p. 134.

[47] *Commentaries*, I, p. 423. This applies only to the home country and not to the colonies, in which England took a large part in the slave trade.

[48] *Commentaries*, I, p. 422.

[49] *Commentaries*, I, p. 447.

[50] *Commentaries*, I, p. 71.
This rule persuaded Fortescue of the necessity for providing a detailed study of English law. Cf. *De laudibus legum Angliae*, V.

which accompanies the realization of the aim and which may appear in one person but may just as easily be lacking in another.[51] With the reduction of moral duties to the formula 'man should strive for his own true and substantial happiness', the question where one is to find what is just as opposed to what is unjust is merely transformed into the question in what then does this 'true and substantial happiness' consist. This question Blackstone leaves completely open. He does not even discuss it.

In the further course of the *Commentaries* Blackstone still does not explain how he reaches the tacit assumption that 'the laws of eternal justice' will be realized and at the same time a harmonious social life be guaranteed if only each individual will strive after happiness in his own way. Nevertheless, he too seems to have had doubts whether, in view of the multiplicity of diverging individual interests, the general well-being would not be the loser. Yet he finds a way out, which at the same time offers a satisfactory explanation and justification of class distinction. 'The distinction of rank and honour is necessary in every well-governed state. Existing on ambitious yet laudable ardour, such a state gives life and vigour to the community, which under a wise regulator may be directed to any beneficial purpose; and thereby every individual may be made subservient to the public good, while he principally means to promote his own particular views.'[52] Here it becomes particularly clear that self-love and personal interest do not by themselves lead to the realization of objective, valuable public purposes. For this, the guiding hand of a wise ruler is needed to lead the individual towards these goals. It is left in practice to the wisdom of the leaders of the state to determine what the valuable public goals are. Thus here, too, the question of right and wrong remains in reality unanswered in Blackstone's conception of the law of nature and a rather forced solution *in concreto*, is therefore inevitable.

Blackstone attaches too little importance to the problem of ethical content. That in reality he offers merely a pseudo-solution does not become immediately apparent because he accepts the concrete particular solutions of the common law almost without criticism, and in this manner appears to offer a detailed solution to the material ethical problem. His latent uncertainty respecting the ethical foundation of law remains concealed because he simply assumes that the common law that has developed historically and won general

[51] Regarding the impossibility in principle of determining the content of the principle of law by the principle of happiness see Kelsen, *Was ist Gerechtigkeit?*, Vienna, 1953, pp. 2ff. and Kraft *Die Methode der Rechtstheorie in der Schule von Kant und Fries*, Basel, 1924, pp. 25ff. (referred to subsequently as *Methode*).

[52] *Commentaries*, I, pp. 157-8.

recognition is merely the manifestation of a value criterion which he defines insufficiently and thus surrounds with the pathos of the law of nature. He makes this possible by previously reducing the law of nature to the empty formula according to which everything belongs to the law of nature that 'tends to man's real happiness'. Such a colourless criterion is sufficient for Blackstone, however, because he proceeds not from an ideal of justice but from a given concrete legal order the rightness of which it never occurs to him to doubt, and his criterion appears to him particularly well suited to proving this rightness.

How little Blackstone is really interested in coming to grips with the material-ethical problem is indicated above by the fact that he seeks to comprehend the law of nature as well as positive law as a 'rule of action prescribed by some superior'. It follows from this conception that the individual is relieved of the responsibility of deciding what is good and evil, right and wrong, and that, consequently, it cannot be his task to help to solve the problem on his own responsibility.

This can be further exemplified by the manner in which Blackstone treats the problem of man's liberty, which was for him and his contemporaries such a major concern. He begins with a definition of natural liberty: 'This natural liberty consists properly in a power of acting as one thinks fit without any restraint or control unless by the law of nature, being a right inherent in us by birth and one of the gifts of God to man at His creation when He endued him with the faculty of free will.'[53] A part of this natural liberty is given up by every man when he enters into society in consideration of receiving the advantage of communal life.[54] The unalienable remnant of natural liberty which every citizen retains Blackstone calls 'the absolute rights' contrasted with the merely relative rights which every individual possesses by virtue of being a member of society.[55] Blackstone describes three principal rights from which he derives all other absolute rights: the right of personal security, the right of personal liberty, and the right of private property.[56] The right of personal security imparts an inalienable claim to the undisturbed enjoyment of life, to the inviolability of body and limb, to a sufficient supply of the necessities of life, and to the unassailability of one's good name.[57] The right of personal liberty comprises the possibility of unhindered movement without being arrested or held, unless this

[53] *Commentaries*, I, p. 125. [54] *Commentaries*, I, p. 125. [55] *Commentaries*, I, p. 123.
[56] A list bearing an unmistakable political tinge and which is pointed against the authority of the state; this is made apparent by the third of the rights listed, the right of private property. Benser, p. 57.
[57] *Commentaries*, I, pp. 129-34.

be in virtue of legal proceedings.[58] The right of private property consists in the free use and enjoyment and the right to dispose without hindrance of all that the individual has rightfully acquired. It can be limited only by law.[59] Thus Blackstone transposes the focal point of liberty to the regions of bodily integrity and a maximum of scope for the pursuit of the economic interests of the individual. This exteriorized conception of human liberty goes together, consequently, with an extraordinary narrow-mindedness above all in questions of religious faith, where Blackstone recommends coercion and the application of force when necessary.[60]

Accordingly, the liberty of the individual, as it is understood by Blackstone, does not give man endowed with free will the task of cooperating in answering the question of right and wrong, aided by his own insight. It does not allow his conduct to be guided by the convictions so gained. Thus he does not help by recognition and realization, to bring about a just order of human relations. On the contrary, liberty according to Blackstone is merely the possibility of an arbitrary activity within the bounds set by the law of nature and positive law. In so far as there is good and evil, justice and injustice, the decision as to which is which is left to the individual, and is, as far as human relations are concerned, prescribed and enforced by the inviolable legal order.

With this reservation, the liberties of the individual form the backbone and core of every legal order. 'For the principal aim of society is to protect individuals in the enjoyment of those absolute rights which are invested in them by the immutable laws of nature ... Thence it follows that the first and primary end of human laws is to maintain and regulate these absolute rights of individuals.'[61] The focus, therefore, is upon the demarcation of each individual's sphere from those of the others; this demarcation is performed by the individual in his own interest; within the individual spheres each individual is to be left as much scope as possible to do as he likes. It is, above all, the purpose of society to guarantee this scope for freedom. Its relationship to the individual is so predominant that in Blackstone's hands all objective law resolves itself into a bundle of subjective laws.[62]

Thus the goal of positive law remains largely negative: the demarcation of the private spheres of individuals and the prevention of friction which can result from the individual's arbitrary activities. This reduction of positive law to its ordering function on the one hand

[58] *Commentaries*, I, pp. 134-8. [59] *Commentaries*, I, pp. 138-40.
[60] *Commentaries*, IV, p. 50. He also tried to interpret the Tolerance Act in far too narrow a sense. [61] *Commentaries*, I, 124. [62] See also Benser.

and, closely linked with it, the overemphasis of its coercive nature on the other hand threaten in the end to negate completely its relationship to the concepts of right and wrong, just and unjust, given in the law of nature. When one considers that Blackstone had in the first place spoken of the law of nature as 'the eternal, immutable laws of good and evil, to which the Creator Himself in all His dispensations conforms',[63] and when one remembers that he had said of the relationship of the law of nature to positive law: 'It is binding all over the globe, in all countries and at all times: no human laws are of any validity if contrary to this . . . ,[64] it causes no small surprise to read in the second chapter of Book I, where Blackstone discusses the legislative functions of Parliament, the sentence: 'It [Parliament] hath sovereign and uncontrollable authority in the making, confirming, inlarging, restraining, abrogating, repealing, reviving and expounding of laws concerning matters of all possible denominations . . . It can, in short, do everything that is not naturally impossible, and, therefore, some have not scrupled to call its power . . . the omnipotence of Parliament.'[65] There can be no doubt that Blackstone embraces this doctrine of the omnipotence of Parliament. In addition he endeavours to place Parliament outside the control and criticism of jurisdiction by limiting judicial authority as far as possible, far more than was then usual in England.[66]

With this Blackstone apparently relinquishes the decisive point of his original thesis that a positive law is void if contrary to the law of nature, and assumes a position that is diametrically opposed to his original starting-point and that almost appears positivistic. For law, it now follows, is what is prescribed and what can be put into effect, without regard to the morally binding power of the prescribed norm. Thus the overstressing of the coercive element in law in conjunction with its being reduced to a *modus vivendi* lead to positive law being almost completely deprived of its ethical character; and the inviolable power of the human legislator which is founded on both threatens to exclude completely all correction of positive, human laws from the standpoint of the law of nature. From the clash of the law of nature with the contradictory positive law, human law emerges as the victor.

[63] *Commentaries*, I, 40. [64] *Commentaries*, I, p. 42. [65] *Commentaries*, I, pp. 160ff.

[66] See in particular *Commentaries*, I, p. 90 and Pollock 'A Plea for an Historical Interpretation' in *Law Quarterly Review*, vol. XXXIX (April 1923), p. 165. The thesis that it is possible to deduce from the fundamental principles of the law of nature and in every detail concrete and right law is transformed with Blackstone — as with numerous Continental writers on the law of nature — into an astonishing suppression of all creative jurisdiction. See further Kelsen, 'Naturrecht und positives Recht' in *Internationale Zeitschrift für die Theorie des Rechts*, vol. II, 1928, no. 25, p. 85. See also Wieacker *Privatrechtsgeschichte der Neuzeit*, Göttingen, 1952, p. 124.

After all this it is not surprising that Blackstone, in order to secure the strict execution of positive law, also overstresses the position of the Crown as executive power;[67] with him the overestimated coercive element in law has merely an external counterpart in the idealization and exaggeration of the role of the monarch, which go far beyond the actual state of the constitution.[68] The monarch is politically 'absolute perfection' and 'not only incapable of doing wrong, but even of thinking wrong.'[69] In this way, moreover, the individual liberties, which had been moved so far towards the centre of positive law, are in practice no less called in question than they are by the omnipotence of the human legislator which was previously argued and emphasized.

Nevertheless, the possibility of the supreme powers being abused seems for Blackstone to be practically excluded by the perfection of the English constitution; which by its happy combination of democratic, aristocratic and monarchic elements provides a certain guarantee that the justified wishes of all are duly considered.[70] The 'balance of the constitution,[71] in which Blackstone believes he is able to perceive a sufficient guarantee for the safety of the liberties of the individual, was in the England of his time in fact but very incompletely realized.[72] The electoral system was such that scarcely every tenth Englishman could participate in the elections for the Commons,[73] and besides, the antiquated constituency boundaries made it possible for the crown and a few wealthy families to secure their influence in the Commons by the purchase of seats in rotten boroughs, constituencies that, although they had long become insignificant, could still send a member to Parliament. These abuses were well known to Blackstone. That he ignored them demonstrates once again that he was more concerned with justifying the status quo

[67] *Commentaries*, I, p. 50.

[68] Cf. Frank loc. cit., p. 199; Dicey in *The Law of the Constitution*, 8th Ed., 1915, pp. 8ff., says: 'It [the transcription of the authority of the crown] has but one fault; the statements it contains are the direct opposite to the truth . . . the terms used by the Commentator were, when he used them, unreal, and known to be so . . .'

[69] *Commentaries*, I, p. 246; cf. also I, p. 241.

[70] *Commentaries*, I, pp. 50ff.

[71] See further *Commentaries*, I, p. 154.

[72] That Blackstone's account of constitutional law did not do justice to the actual situation is among the most frequent of the main criticisms directed against him. See for example Frank, loc. cit., p. 205; Heatly, 'Fox, Montesquieu and Blackstone' in *The Law Quarterly Review*, vol. 35, 1919, p. 341; Laski, *Political Thought in England from Locke to Bentham*, London, 1920, pp. 136ff.; and Dicey, *The Law of the Constitution*, 8th ed., p. 7.

[73] This was because the possession of a certain amount of property was a qualification for participating in elections. Blackstone vindicates this, too: 'The true reason of requiring any qualification, with regard to property in voters, is to exclude any such persons as are in so mean a situation that they are esteemed to have no will of their own. If these persons had votes, they would be tempted to dispose of them under some undue influence or other. This would give a great, an artful, or a wealthy man, a larger share in elections than is consistent with general liberty.' *Commentaries*, I, p. 171.

than with undertaking a critical survey of the traditional legal system.[74]

IV

Blackstone's reflections on the law of nature have, it appears on closer examination, merely a loose connection with the systematic exposition of common law which he provides in the further course of the *Commentaries*. They neither determine the order of the legal material presented,[75] nor do they provide the main points of view from which it is considered, and they are also not taken as a starting-point for a serious criticism of traditional law.

At the same time, first in the German states and shortly afterwards also in Austria, Denmark and Russia, the doctrine of the law of nature became, by way of the universities and through direct contact between leading figures of the Enlightenment with the courts, the governmental programme of enlightened absolutism; as the expression of a new civil agitation for freedom rising against the absolute monarchy, it helped in France to forge the weapons of the revolution; and so everywhere on the Continent these ideas contributed towards bringing about a radical reform of positive law.[76] With Blackstone, however, its real influence remains almost insignificant. That is not so surprising if one remembers that in England at that time the wide-swinging pendulum of revolution and reaction had been brought to a long standstill by the second glorious revolution of 1688. The attempt of the Stuarts to transplant Continental absolutism to England had finally failed. The religious controversies were conducted in an atmosphere much more tolerant than that of the Continent. The rights of personal liberty which had been so bitterly disputed appeared once again and permanently secure, and the conception existing since the Middle Ages of the primacy of the law which was regarded superior even to the will of the executive had found visible expression in the fact that judges could not be dismissed. Finally, the equity of chancery had provided from the beginning the possibility of a correction of the common law in accordance with the most important demands of the law of nature. In short, the age regarded itself 'not as starting but as having arrived'.[77] This alone explains why there had been no fertile

[74] Laski, loc. cit., p. 136.

[75] This Blackstone acquired from Hale, as is revealed by a glance at Hale's *Analysis of the Law*. Cf. Lockmiller, loc. cit., pp. 253ff.

[76] See also Wieacker, loc. cit., pp. 156ff. and Thieme, *Das Naturrecht und die europäische Privatrechtsgeschichte*, 2nd ed., 1954; the same author *Die Zeit des späten Naturrechts* in SZ Germ, vol. 56, 1936, pp. 202ff., and *Die preussische Kodifikation* in SZ Germ, vol. 57, 1937, pp. 355ff.

[77] Trevelyan, *English Social History*, 2nd ed., London, 1946, p. 340.

soil prepared in England for a revolutionary development of rational thinking comparable with the Continental evolution.

Moreover, Blackstone also shared the deep-rooted antipathy of most English legal thinkers towards abstract systems of thought. Thus his strength lay not so much in the ability to deduce from basic premises a logically consistent system of positive law; it lay rather in the facility with which he compiled, from practical points of view, a host of individual rulings given in usages, laws and precedents. Evidently influenced by Locke, he attempted to transfer to the discipline of law the empirical method the latter had tested in psychology,[78] and, vice versa, to arrive at a deeper understanding of the legal system as a whole from the premises deducible from the contingent data of positive law. In this he was eminently successful. Since the common law was at that time more than today primarily a case law developed by judges, Blackstone was unable to benefit by any precise terminology and system prescribed by the legislator and derivable from the law. These were in a large measure a result of Blackstone's *Commentaries*, which adjusted English law to '*l'esprit rationaliste de son temps*' and permeated it with this spirit.[79] His definitions – and his method too – subsequently exercised a decisive influence on English law.[80] That links him in the first place with Pufendorf and Wolff in Germany, with Domat and Pothier in France, and with Barbeyrac, Burlamqui and Vattel in Switzerland. These, however, proceeding from their ideas on the law of nature and consciously breaking with their late scholastic masters fought more than Blackstone for the autonomy of social ethics: they deprived the theologians of the law of nature and, restricting God to a world architect outside the world, cleared the ground for a legal ethics founded on the law of nature and amenable to mathematical treatment; from here they systematically ordered the traditional legal material and gave it terminological precision.[81] Sustained by the conviction that the best possible solution for English conditions already existed in the law which had historically developed, Blackstone is concerned, just as they are, not so much with further development as with clarification, codification and consolidation of what is already achieved. In accordance with this fundamentally conservative attitude, he employs the notions of the law of nature not for the purpose of criticism, but in order to justify what he found; in this,

[78] See also Dunoyer, loc. cit., pp. 84ff.
[79] Levy-Ullman, *Le Système juridique d'Angleterre*, Paris, 1928, p. 270.
[80] See also Benser, loc. cit., and Thieme, *Das Naturrecht und die europäische Privatrechtsgeschichte*, 2nd ed., pp. 32ff.
[81] Cf. Thieme, loc. cit., pp. 16, 23ff., 25ff., 30, and Wieacker, loc. cit., pp. 139ff., 150ff., 155ff.

too, he is close to the 'systematicians' (Thieme) on the Continent.[82] With him the law of nature and positive law do not stand in the tense relationship of should and is; instead, is and should interfuse in common law, and the law of nature is given the modest role of subsequently justifying before the forum of reason, something which has historically grown, thus sharing with it some of its timeless glory.[83] This is paid for in Blackstone's case – as it was with Wolff even more evidently than with Pufendorf and Grotius[84] – by declaring all the still more or less unexamined principles of the given positive law to be law of nature, thus embodying a great deal of detail in their system of the law of nature.

This identification of the 'law of nature' with 'positive law' in the area governed by his conception of the law of nature becomes possible for Blackstone only because he conceives law as being law prescribed by nature and thus reduces the legal should-relations to empirical and transcendent is-relations. Here he commits a frequent error of many writers on the law of nature: he takes account of the objectivity of law, but fails to recognize its normative character.[85] The identification of the law of nature and positive law is made easy for him also by the fact that he elevates the compulsive element,[86] in essence peculiar only to positive law, to a constituent element of the law of nature, thus inadmissibly obliterating the bounds between the law of nature and positive law. For no validity in the juristic sense can be assigned to the law of nature as a criterion which is in essence static, developed from certain fundamental ideas, and historical, for judging the contingent, historically mutable, defective

[82] Cf. Thieme's general characterization of them, loc. cit., p. 16, and Kelsen, *Naturrecht und positives Recht*, loc. cit., pp. 86ff., who here refers in particular to Benediktus Winkler.

[83] Hence it is not surprising that Bentham, who, in contrast to Blackstone, was governed completely by ideas of reform and who was intent on adapting law to the constantly changing circumstances, makes with good reason the parts of the *Commentaries* dealing with the law of nature the target of his caustic criticism. Cf. Bentham's *A Comment on the Commentaries*, edited by Everett, Oxford, 1928. Notwithstanding this, during the setting up of the federal and state constitutions in North America, the *Commentaries* formed, owing to their wide circulation, a bridge for the ideas of Locke, Burlamqui and Montesquieu, and thus they helped the leading idea of the later European law of nature to become realized in an impressive way in the New World. And when, at the time the colonies became independent, the ties with the case law of England threatened to break owing to a lack of volumes containing collections of decisions and of judges familiar with the common law in all its details, it was the *Commentaries* that finally hindered the seriously considered introduction of French law ... cf. Hazeltine in *The Encyclopaedia of the Social Sciences*, vol. 2, New York, 1950, p. 580; Lockmiller, loc. cit., pp. 173ff.; Levy-Ullman, loc. cit., p. 272; and Thieme, loc. cit., pp. 34 and 38. Even today it is a common saying in America that the only mental equipment the forefathers brought over from Europe was 'the bible and Blackstone'.

[84] Cf. Wieacker, loc. cit., p. 29 and Thieme in SZ Germ, vol. 56, 1936, pp. 222ff.

[85] An error which has been handed down by way of the historical school of law to positivism. See Kraft, *Die Wiedergeburt des Naturrechts*, Berlin, 1932, pp. 6ff.

[86] Cf. Kelsen, *Die philosophischen Grundlagen der Naturrechtslehre und des Rechtspositivismus*, Charlottenburg, 1928, pp. 8ff., (subsequently referred to as *Naturrechtslehre*).

positive law. Postulates of the law of nature are offered, but they are not valid.[87] Thus a 'law given by nature' and a 'law in virtue of human decrees', 'law of nature' and 'positive law' cannot in principle be co-ordinated without inconsistency.[88]

Blackstone attempts to master this difficulty by distinguishing between an area governed by the law of nature and a sphere of indifferent matter which is left to the human legislator and is free of the law of nature. But also this attempt to introduce a materially unrestricted human legislator into the static norm system of the law of nature turns out on closer scrutiny to be logically unrealizable.[89] For this differentiation between a core area governed by the law of nature and a sphere free of the law of nature also entails the abandonment in principle of the idea of a law of nature as a self-contained, previously given, ideal order of human relations. This attempt to see the law of nature and the common law as two adjacent orders of equal validity, when examined closely, merely amounts to the engulfment of the former by the latter.

In order to raise positive law beyond merely factual, contingent, human relations to a binding order also within the area of indifferent matter which he unduly expanded, Blackstone resorts to the traditional constructive aid of the social contract, thus being relieved within this area too of the necessity of providing objective and convincing reasons for the obligatory character of positive law. This completely converts the notion of an ideal law of nature into its opposite, into a spurious legitimation of positive law, and merely serves to idealize what is.[90] The law of nature, which from the beginning had thrived on the relation of tension between idea and reality, is transformed by Blackstone into a textbook of common law. It thus loses – as it did on the Continent in the age of the codifications of the law of nature[91] – the pathos of justice, which in its best representatives was so vital and genuine, so keen on scientifically sound reasoning; and it consequently paves the way for positivism.

If one regards the law of nature as a constant search for an answer to the age-old question of right and wrong, as a longing for the discovery of timeless, *a priori* legal structures, then Blackstone was no

[87] For a detailed account see Kraft's *Die Methode der Rechtstheorie in der Schule von Kant und Fries*, Basel, 1924.

[88] This has been set forth with especial clarity by Kelsen in his treatise 'Naturrecht und positives Recht' in the *Internationale Zeitschrift für die Theorie des Rechts*, vol. 2, 1928; cf. also Kraft's *Die Wiedergeburt des Naturrechts*, pp. 6ff.

[89] Regarding the fundamental impossibility of this and similar attempts see Kelsen's *Naturrechtslehre*, pp. 31ff.

[90] For details of this denaturalization of the law of nature see Kraft's *Die Unmöglichkeit der Geisteswissenschaft*, 2nd ed., Frankfurt, 1957, pp. 50ff. and p. 124.

[91] Cf. Welzel's *Naturrecht*, p. 160; Thieme's *Das Naturrecht und die europäische Privatrechtsgeschichte*, 2nd ed., p. 44.

exponent of the law of nature, even though he speaks its language. He intentionally avoided the real concern of such exponents, the serious, independent endeavour to solve the central, material problems of law, and he employed the traditional notions on the law of nature merely in order to justify and glorify the existing legal situation of his time and his country. In doing so, he was not merely unfaithful to the great traditions of the law of nature: he was also partly responsible, mainly through his identification of the law of nature with the historically determined form of the common law of the eighteenth century, for the fact that the law of nature soon became discredited and appeared so easy to overcome.

(Translated from the German)

REVIEWS

Problems of Legal Philosophy by FREDE CASTBERG, 2nd edition, Oslo University Press, London: George Allen & Unwin Ltd., 1957. Pp. 120.

I

In this lucid and stimulating book the learned author, a professor of constitutional and international law at the University of Oslo since 1928 and for many years a leading member of the Norwegian delegation to the League of Nations and then the United Nations, states his position on various fundamental problems of legal philosophy. The book appeared in Norwegian as early as 1939; the first English edition was published in 1948.

The book deserves special attention because the author is familiar with all the important modern theories of law in Scandinavia. His thorough knowledge of the principal modern theories enables him to relate these Scandinavian ideas to English and American legal philosophy as well as German philosophy of law. However, his attitude towards the various realistic doctrines of Danish and Swedish legal scholars is by no means uncritical. He emphasizes the value of the traditional concepts of norm, legal obligation and legal validity. Above all he is at pains to stress that logic must be accorded an essential place in legal thought. This book, evidently the result of several years' work, reflects the author's desire to assign to reason and logic their proper relevance in law. Thus the theme of the book is in many ways related to the ideas with which this periodical is especially concerned.

II

The author begins by drawing a distinction between legal dogmatics, legal history, legal sociology and legal philosophy. He defines the task of legal dogmatics concisely as that of showing the applicability of positive law. He emphasizes its normative character. Yet since its value judgments are in many cases taken over from other fields, 'in the collective front of the sciences, legal dogmatics takes a humble position. But it is absolutely essential in a modern civilized community' (p. 7).

Legal history, on the other hand, should not take up a position on practical questions. Its task is rather to disclose how legal cases were settled in the past. The object of its investigation is the single historical event in its individual setting.

Distinct from legal history, described by the author as an individualizing science, is sociology of law, a generalizing science. Sociology of law seeks to comprehend legal phenomena as the expression of a general social law. It examines the effects of social conditions on the formation of law and the consequences of the application of this or that norm in social life. Thus legal sociology is a non-valuing, causal science that concerns itself

with the legal aspect of social life as a psychologically and physically determined phenomenon.

Finally, legal philosophy, which belongs to ethics in the broader sense, seeks to understand law as a spiritual phenomenon. One of the principal problems with which it has to deal is the question of what law really is. It is further concerned with comprehending legal thinking as a logical process and with examining the objective value of our legal ideals. The definition of what is right law falls within its sphere, too.

In the light of these considerations the author examines in the second chapter the concept of law. He holds that the concept of law has its basis in experience; however, with the characteristic of legal validity a pre-empiricial element enters into it. Consequently the concept of law also entails *a priori* elements. The author emphasizes the normative character of law, and he describes legal norms as 'general propositions on duties'. 'Ideelle Existenz' (E. Husserl) is a characteristic of legal norm in addition to material reality. Law is at one and the same time 'seiendes' and 'ideales Sollen'.

The third chapter contains a brief historical outline of the development of juridical methodology; here the main emphasis is on discussions of the subject in Continental Europe.

In the fourth and final chapter the author deals with the problems of legal valuation. Taking as his starting-point the teleological character of all law, he contends that a legal theory of valuation must invariably have recourse to metaphysical conceptions. At the same time this presupposes a positive attitude towards the problem of freedom of will. The book concludes with a rejection of relativistic theories of values and an avowal of objective right law.

III

This brief summary may suffice to show that the author is familiar with the principal theories of Scandinavian, Anglo-American and German legal philosophy. His own ideas are closest to those of the Neo-Kantian school in south-west Germany. He refers in particular to Rickert. On the other hand, he makes no mention of many important modern doctrines – excepting sporadic references to the Romanic legal philosophy. The ideas of, for example, Leonard Nelson or the great socialists in their role as legal and social philosophers are ignored.[1] Nor are such names as Anton Menger, Lorenz v. Stein, or Harold Laski mentioned, possibly in deference to Rudolf Stammler for whom the discussion of socialism does not directly belong to the tasks of legal philosophy[2] – although it is a main task of legal philosophy to work out laws for the regulation of human relations. Even such legal sociologists as Eugen Ehrlich and Georges Gurvitch are not dealt with, nor is the legal philosophy of Erich Fechner discussed despite the fact that the latter has various points in common

[1] Thilo Ramm, *Die grossen Sozialisten als Rechts- und Sozialphilosophen*, vol. I, 1953.
[2] *Lehrbuch der Rechtsphilosophie* (3rd ed. 1928), p. 121.

with the author. However, the author did right to disregard here the doctrines of existentialist philosophy. For a philosophy of extreme subjectivism, concerned with the comprehension of man in 'his most innermost capability of being', necessarily stands far apart from such a phenomenon as law, which must always contrive to regulate human relations in accordance with normative criteria. Among the contemporary legal philosophers who have put forward valuable ideas on certain questions discussed in this book, yet to whom unfortunately no reference is made, are Paul Robier, A. L. Goodhart, W. Friedmann, Helmut Coing and Hans Welzel, to name but a few.

The author does not always take account of the latest developments in the doctrines of the writers with whom he deals. Thus only the first 1910 edition of Radbruch's *Einführung in die Rechtswissenschaft* is quoted and the modifications in Radbruch's views on legal philosophy dating from 1932 are neglected. Yet Radbruch's conversion to a belief in a 'super-legal law' and his emphatic avowal of the idea of a 'super-positive' law (*Vorschule der Rechtsphilosophie*, 1947, p. 30 et seq. and p. 108 et seq.) are wholly in line with the author's own line of thought. Radbruch's attempt to link the 'value-surmounting' attitude of religion and a religiously based metaphysics on the one hand with the antinomy between justice and legal security on the other might have provided the author with a challenge and stimulated further fruitful ideas. Of course, in a short book of this kind reference to all the relevant literature cannot be expected. The reader who intends to study the subject more deeply, particularly the role of logic in law and in the doctrines of Scandinavian realists, is referred in the first place to the numerous writings of Wilhelm Fuchs, which contain a wealth of ideas but have not hitherto received the attention they deserve.[3]

IV

Of special interest to readers of this journal will be the author's efforts to comprehend the structure of legal science in its various fields. It is true that comparative law is not considered at all. Yet it is indispensable to modern legal science. For it is not sufficient merely to present the historical problems and viewpoints by which a specific legislator was guided. In addition to the historical setting of a particular positive law designed to deal with a typical problem, the possibilities of dealing with this problem in present-day circumstances must be collated comparatively. It is not enough to deal with specific problems; equally important is a comparative study of the fundamental values upon which the various legal systems are based. Similarly, the value-decisions of the various social systems, put in a certain hierarchical order, should be

[3] *Logische Studien im Gebiete der Jurisprudenz.* Particularly vol. I: 'Die Arten der Rechtssätze — Unendlichkeits probleme im Recht', 1920, vol. III: 'Die Zukunft der Rechtswissenschaft, Rechtwissenschaft als Gerechtigkeitswissenschaft', 1933, vol. IV: 'Wege und Irrwege juristischen Denkens', 1936, vol. V: 'Neoklassik in der Rechtsphilosophie', 1954.

compared. In the end there arises the problem of a 'natural law' – in the attempt to obtain more or less generally binding principles based on certain essential considerations governing concrete solutions – an attempt which in the last resort cannot be accomplished and which the author passes over rather perfunctorily (p. 112). Thus the questionable nature of all human legal endeavour receives far too little emphasis, and what is said does not help much in finding the criteria by which to judge whether or not a particular instance of legislation or jurisdiction is at all in the interest of a just social order.

Moreover, the author fails to answer convincingly the question whether, and to what extent, all evaluation presupposes a decision on the meaning of human life. However, a legal-sociological approach can lead to a personal value judgment only when one has reached the conclusion that the causal determination of social processes does not suffice for the comprehension of law. Those who believe that law is wholly determined by such factors as power politics, geography, economics and racial origin, have no room for decisions in accordance with value criteria.[4] It is certainly not the author's opinion that law is determined solely by variable social processes, while he realizes on the other hand the significance of the social processes for law. Yet he fails to understand adequately the problem of legal philosophy when, pursuing a kind of 'dualism of method', he contrasts legal sociology, as something quite different, alien and independent, with legal philosophy. Among the tasks of legal philosophy are both the ascertainment of social laws and the evaluation of social development. Every legal order comprises causally explicable facts as well as decisions based upon a specific system of values. Thus legal philosophy and legal sociology are not independent opposites; on the contrary, the sociological as well as the metaphysical approach have their place in legal philosophy. 'Thus', Erich Fechner writes,[5] 'legal philosophy, properly understood, does not represent an unbridgeable contrast between sociological and metaphysical conceptions, but rather a duality which becomes a larger unity, in which the individual scientific-sociological approach and the comprehensive metaphysical view form a whole.'

These short remarks on Frede Castberg's book will indicate that it deals in a stimulating way with a whole range of ideas. Even those who do not agree with him on every point will be able to appreciate his carefully considered views.

W. MÜLLER-FREIENFELS

(Translated from the German)

[4] See in this connection H. Coing, *Die obersten Grundsätze des Rechts, ein Versuch zur Neubegründung des Naturrechts*, 1947.

[5] Erich Fechner, *Rechtsphilosophie*, 1956, p. 267.

Gödel's Proof by ERNEST NAGEL and JAMES R. NEWMAN. Routledge & Kegan Paul Ltd. 1959. Pp. 118. 12s. 6d.

Gödel's proof is the well-known proof, given by Gödel in 1931, for the fact that every logical system of axioms which is free from contradictions and has sufficient means of expression is necessarily incomplete in the sense that certain logical propositions which, as far as their content is concerned, are recognized as correct cannot be deduced within the system. This theorem of Gödel is not only important for logico-mathematical foundational research; it is also of general philosophical interest. Unfortunately, the details of the execution of the proof are understandable to the specialist only. The authors have, therefore, set themselves the task of introducing the essential arguments to a wider circle, without of course being able to deal with all the technical details.

In order to achieve their purpose and to bring out the significance of the results of Gödel's theorem, the authors felt it necessary to survey at least briefly certain recent developments in the history of mathematics and of mathematical logic. They therefore sketch, by way of explanation: the development of the axiomatic method; the relative proofs of consistency in axiom systems according to the model method; Hilbert's conception of a proof of 'absolute' consistency by his finite methods and his distinction between mathematics and metamathematics; the execution of a consistency proof of this kind with regard to sentence calculus; the codification of formal logic by the 'principia mathematica' and the possibility of rendering arithmetical propositions in it. Gödel's illustration of metamathematics on the basis of arithmetic and his (correct) utilization of Richard's paradox is then explained, and from this there follow the above-mentioned incompleteness and the need of expanding Hilbert's finite methods in order to make possible a consistency proof for arithmetic (in the meantime this has happened).

The authors stress especially the conclusion that it is impossible to construct a machine which would solve all mathematical problems and that there always remains room for the creative imagination of the individual mathematician.

On the whole, the authors have succeeded in what they set out to do: to give the layman, within a limited space, an idea of the methods and significance of Gödel's proof.

A few comments. The statement that Hilbert's finite method consists only in operating with finite sets is not quite correct or, in any case, apt to cause misunderstandings, since in the finite method the recursive procedure plays a vital role. However, this is not a matter of importance for the rest of the exposition. With regard to the presentation of the fact that there are in every formal system non-deducible propositions which are correct as far as their content is concerned, it might be added that it is always possible for a formal system to be extended in such a way as to include in it a certain proposition which is not deducible in the narrower

system but intuitively correct — other non-deducible propositions will of course still be left.

It should be noted here that in more recent times we have learned how to avoid the consequences of Gödel's theorem as far as arithmetic is concerned, namely through a widening of the concept of the formal system in such a way that not all axioms used in it are given at the outset, but only a rule for drawing up further axioms whose application depends on certain intuitive metamathematical considerations. A system of this kind, as a whole, does not permit arithmetization in the manner of Gödel.

WILHELM ACKERMANN

(Translated from the German)